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JPRS Report

Environmental Issues

Environmental Issues

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UN Environment Director Tolba Interviewed on Rio Results

PY1606010592 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 14 Jun 92 Environment Section p 6

["Exclusive" interview with Mostafa Kamal Tolba, executive director of UN Environment Program, by Regina Barreiros of ESTADO news agency in Rio de Janeiro; no date given]

[Text] [ESTADO] *Does the fact that the United States did not sign the Biodiversity Treaty weaken the results of the Rio-92 conference?*

[Tolba] I do not believe it does because the conference was a success. All the other developed countries have already signed both the Biodiversity Treaty and the Climate Changes Treaty. I believe the United States will end up signing it, as predicted by the Canadian prime minister (Brian Mulroney). The electoral campaign was not the only reason for Bush's reaction. It was an emotional and hasty reaction. When Americans get to read the Biodiversity Treaty more calmly and in depth they will realize that the main problems are included in the treaty, including the problems that they mentioned at the preparatory meetings.

[ESTADO] *Does the lack of definition of financial resources compromise the effectiveness of the instruments proposed at Rio-92?*

[Tolba] Without a clear definition of resources the measures tend to be inefficient because it is impossible to develop a work program without an allocation of resources. A great inflow of foreign currency for the developing countries is important. The developing countries also need to make better use of their own resources which currently represent 97 percent of the total effort for their development. The official aid provided by the rich countries does not go over 3 percent, or \$55 billion per year, which is equivalent to an average of 0.35 percent of the GDP [Gross Domestic Product] of the industrialized countries: The United States currently provides 0.24 percent of its GDP; Japan, 0.35 percent; and the European countries, 0.45 percent.

[ESTADO] *Without a definite deadline for increasing the contribution of the rich countries to 0.7 percent of their GDP, will it be possible to implement Agenda 21?*

[Tolba] The developed countries agreed in Rio-92 to promote this increase but without a definite date. I believe it will be very difficult to get the contribution increased to 0.7 percent of the GDP. This represents more than double the current contribution. It will not result in the estimated \$125 billion alone because the GDP of these countries grows every year. I believe that if the countries of the North propose an annual increase from \$4 to \$5 billion per year of the resources for development it will be possible to implement a good program. But this decision has not yet been made. This decision was postponed for the meeting of the G-7 (United States, Japan, Germany, Great Britain, France, Canada, and Italy) to be held in Munich, Germany, next July. During this meeting the industrialized countries are expected to define the amount to be given to the Global

Environment Facility—GEF and to help sustainable development. There is hope for a concrete definition especially from Japan.

[ESTADO] *How much progress was made on the proposals for the preservation of the natural resources of the planet at the conclusion of Rio-92?*

[Tolba] The way Agenda 21 is being approved (there are 1,000 proposed activities and actions) it includes great progress for the preservation and conservation of ocean and river resources, forests, biodiversity, and also biotechnology. I believe the creation of a follow-up commission to make its implementation operational is very important. Once the resources are available it will be relatively easy to guarantee the implementation of the proposed actions.

[ESTADO] *Do you believe that oppressing mechanisms, like the proposed so-called ecotax, could be more effective for preservation?*

[Tolba] I am in favor of the ecotax when the environment is abused. For example: if you pollute the air you should pay for the harm done to the environment. The tax would also be an incentive to regulate the use of cars. Unfortunately that proposal was not approved.

[ESTADO] *Will the family planning proposal you brought to Rio-92 lead to a global program of birth control within the United Nations?*

[Tolba] Each country should find the way to implement family planning, adapted to their own situation. Putting the instruments for family planning at the disposal of the population is not enough. It is necessary to understand the traditions of each society. It depends on the educational level. The more educated the people, the more willing they will be to carry out the family planning and to overcome the problems related to cultural and religious traditions. This plan should be promoted.

UNCED Secretary General Strong Assesses Earth Summit

PY1606183892 Rio de Janeiro O GLOBO in Portuguese 15 Jun 92 Rio 92 p 1

[Interview with Maurice Strong, secretary general of the UN Conference on Environment and Development, UNCED, by unidentified reporter on 14 June in Rio de Janeiro]

[Text] [O GLOBO] *How do you assess the Rio-92 Conference?*

[Strong] As a conference, it was a great success; but in itself, the conference does not change any of the global problems that were discussed in these last 2 days. As for results, we can only assess them based on the actions that the different governments and societies will adopt. Twenty years ago, I heard many people say the same things that were said here. But we are still far from reaching our goals. We have yet to implement what was proposed in Stockholm. The problem is that we do not have another 20 years to waste. We must act now.

[O GLOBO] *If the UN lacks mechanisms to assess the actions undertaken by the different countries, how will it be*

possible to compel these countries to uphold the commitments encompassed in Agenda 21?

[Strong] Personally, I am in favor of implementing a system by which the different countries may render account of their actions either within the framework of the United Nations or outside of it. But political commitments and the willingness to carry them through are more important than legal pressures. Political will is what we lacked in Stockholm. My closing speech in Rio de Janeiro was not much different than the one I delivered 20 years ago. Agenda 21 contains more political commitments than any other political document. It is an innovative document because it definitely associates ecology with economy. But it is essential for each country to demand its government leaders to put implement these commitments.

[O GLOBO] The UN intends establishing a high-level committee, the Sustainable Development Council. Who will take part in this council?

[Strong] I believe this committee should be at the cabinet level. The UN has no power to sanction any measures and so it is important for the committee to be made up of people who, in their own countries, are empowered to implement practical measures. The UN has very little influence on matters concerning financial, commercial, or international tariffs. It is only recently that the World Bank and the IMF have begun to participate in UNCED debates. The UN made a great effort to have economy ministers participate in the preparatory meetings, but only in the final stages did governments realize that the discussions were not only of the exclusive concern of environment ministers. Despite their importance, environment ministers are not responsible for implementing their countries' financial policies.

[O GLOBO] Are you disappointed about any particular issue?

[Strong] Despite the fact that they are good initiatives, I am disappointed with the Treaty on the Climate Changes and the chapter on finances in Agenda 21. I am disappointed because we were unable to fix timetables and specific objectives to reduce carbon dioxide emissions. Regarding financing, I had hoped to achieve firmer commitments from some of the richer countries. We will lack sufficient funds for sustainable development if we do not change the current financial system. We must find new sources of funds through international taxes or licenses on toxic gas emissions.

[O GLOBO] According to Norwegian Prime Minister Gro Brundtland, the Rio 92 conference did not improve on the 1972 conference. What is your assessment?

[Strong] Perhaps we did not achieve any progress regarding wars. With so many international conflicts, there were no regulations issued against countries that use the environment as a weapon. It is necessary to assess the need to keep

war materiel in times of peace. Despite all this, however, we cannot deny the positive value of what has been decided here. It was not our intention to save the world in one single conference.

[O GLOBO] The United States did not sign the Biodiversity Treaty, safeguarding its national interests. To what point did this decision undermine the Rio 92 Conference?

[Strong] It did not influence the 153 countries that signed the Biodiversity Treaty, but it certainly curtailed its effectiveness. This meeting, however, is only the beginning. I believe that it will not be long before the United States approves this treaty. It is impossible for the United States or indeed for my country, Canada, to continue the same patterns of life and consumption. These patterns are not sustainable any longer. If we continue this way neither the "status quo" nor the economy will survive. We are on a path that will lead us to tragedy.

[O GLOBO] What new resources were announced for developing countries?

[Strong] I believe it was between \$6 and \$7 billion per year. It may even be \$10 billion if some countries change their general promises into specific proposals. I hope part of this money will be released before September.

[O GLOBO] Are there any plans to hold another summit?

[Strong] We certainly cannot wait another 20 years to hold another summit but I do not know when it will be held. A summit like this cannot be held every day. Summits help to promote political will. I believe a follow-up meeting may be held within three years. But the only certain thing about the next conference is that I will not be heading it.

U.S.-Russia Issue Statement on Lake Baykal Cooperation

*LD1806135192 Moscow ITAR-TASS World Service
in Russian 0905 GMT 18 Jun 92*

["Joint Statement by the Presidents of the Russian Federation and the United States"—ITAR-TASS headline]

[Text] The presidents of the Russian Federation and the United States, reaffirming their readiness to promote expansion of cooperation in the sphere of conservation of the environment and to further basic scientific research, state their resolve to preserve the unique ecosystem of Lake Baykal and to use its potential for research into limnology, geology, and global climate change.

To this end, the presidents of the two countries will strive to create the conditions for fruitful contacts between the relevant official departments, scientists, and non-governmental organizations, and to convene a conference of experts on the environment in the very near future to discuss issues in Russian-U.S. cooperation in the ecological sphere directed toward the preservation of this truly inimitable creation of nature for present and future generations.

SOUTH AFRICA

Vegetation Aids Control of Mining Pollution

92WN0595B Johannesburg *FINANCIAL MAIL* in English
15 May 92 pp 27-28

[Article: "All Power to the Plants"]

[Text] Requirements of legislation are such that each mine has to have an authorised rehabilitation plan that must be implemented as part of the mining process. A mine must also show evidence of financial stability to rehabilitate and maintain acceptable environmental standards.

On decommissioning and closure, this ensures that environmental control as far as practically possible has been affected. It is only when the various authorities are satisfied that pollution control has been implemented that they would provide the mine with a closure certificate.

Dr. Dave Morrey, of environmental management company Steffen Robertson & Kirsten (SRK), says: "The penalties for contravening any aspect of the Act are severe and, in certain places, are stricter than in the U.K. and Europe. They are also in line with aspects of federal and state law in parts of the United States.

"In the United States, there is room for some negotiation, with leniency being shown to mines which are at least attempting to solve major environmental problems. I'm sure the same will happen here.

"However, the law has made provision for daily fines of around R1,000 a day, every day, until that particular part of environmental control is tightened up on a mine. There will also be large lump sum fines and possible imprisonment of the person responsible for that mine. In addition, the mining lease and mineral rights may be withdrawn."

All South African mines, opencast and underground, and quarries, now have to reapply for their mine leases and rights. Unless they have a comprehensive and tightly controlled rehabilitation plan in place, they will not regain the privilege to mine.

Key issues involved are the suppression and control of atmospheric pollution by gases, and by dust from the deposition of mine wastes (a particular problem with stockpiles of topsoil, waste rock, overburden and tailings dams).

Just as important is the maintenance of surface and ground-water quality. At times, surface water quality is compromised by silt, often toxic, deposited from surface water runoff from mine waste dumps into adjacent surface waters.

The major requirement of conserving ecological and agricultural resources demands that any area that has been disturbed or contaminated by mining activity has to be remediated so that the pre-mining land use potential, or land capability, is reinstated. Here, there is an aesthetics consideration, too.

All too visible examples of mining pollution are the ubiquitous tailings dams or "mine dumps" of Johannesburg, the East and West Rand. For years, the acidic dust has turned

the air yellow during high winds, and has been deposited at times on agricultural or domestic land, and in surface water.

How does the present generation deal with new tailings dams and the leftover dumps from generations gone? The answer lies in chemical bioremediation and the establishment of a permanent vegetation cover over mining wastes.

Problem is that, though this is probably the most cost-effective and ecologically sound route to take, the dumps are generally infertile and toxic. High surface temperatures can restrict any kind of plant growth and water either tends to run off massively or infiltrates and percolates right through the waste.

Morrey says: "We are developing a branch of biotechnology which is being applied to the rehabilitation of toxic mining and industrial chemical wastes. However, it's easier said than done to grow vegetation on mine wastes. You can get just about any plant to grow on any kind of waste, but only for a short period.

"The key issue is to try to alter the chemical and physical conditions of the wastes so that they become less hostile to plant growth. We have to make them more like a soil than a waste, which means that there has to be microbial activity and insect activity. Everything that creates a nutrient cycle has to be in place before vegetation cover can be permanent and self-sustaining.

"Waste rehabilitation is carried out by chemically and physically altering the surfaces of the wastes, then establishing a vegetation cover, which should be fairly stress-tolerant, because no matter how we change the characteristics of the wastes they are still not going to be soil-like.

"SRK promotes two ways of rehabilitating toxic waste. The first I've called the ameliorative approach, wherein we rapidly change the chemical and physical characteristics of the waste and then use relatively stress-tolerant plants, at times normal off-the-shelf species from local stockists.

But the key issue is that we don't use topsoil. We plant directly into the physically and chemically changed waste.

"The second alternative—the adaptive approach—is where minimal chemical and physical amendment is required.

"We utilise varieties of species which are physiologically and genetically adapted to those hostile conditions," explains Morrey.

The concept is based upon a simple observation—regardless of the toxicity or infertility of any kind of mine waste, there will always be pockets of natural vegetation, albeit sparsely distributed.

Naturally established directly into the mining waste, they have developed a tolerance to a broad range of hostile conditions such as acidity, extremely high concentrations of toxic metals, and very low levels of essential nutrients and water stress in various combinations.

In the Seventies in the U.K., several varieties of grass were developed commercially after it was discovered that these grasses occurred naturally on heavy metal mining wastes.

A number of varieties were developed on a large scale for the rehabilitation of lead, zinc and copper wastes throughout the U.K. and Europe in both highly acidic and highly alkaline environments.

Morrey says: "Over the last 15 years, I have been involved in the identification of potential toxic metal and acid-tolerant plant material as occur naturally on some mine wastes. We put these specimens and others bought from a seed stockist through a rigorous series of toxicity tolerance tests.

"Within a couple of weeks, we can detect those individuals which show the highest levels of tolerance to whatever heavy metal or acid concentration is used.

"We then take those individuals and develop them under glasshouse conditions into an experimental stock of plants which are then assessed under field conditions.

"Then we select again the most seemingly tolerant individuals and hand these over to a plant breeding group which develops stocks for use in the large-scale rehabilitation of mine or other industrial wastes.

"In the adaptive approach, we don't need topsoil and we have no need to radically alter the chemistry and the physics of the mine waste.

"Certainly we have to fertilise and do a few bits of chemical and physical amelioration but nowhere near as much as in an orthodox agricultural approach.

"Our methods of selection are novel, rapid and cost-effective. Literally hundreds of varieties of species may be screened in the space of two weeks. This is a very costly exercise when done by field experimentation which requires a lot of manpower and taking place over maybe two growing seasons, at least 18 months.

"Our technique is known as in-vitro culture. We are the only people, I believe, in the world, who are screening such large volumes of toxicity-tolerant material, such a diversity of species using this technique.

"S.A. has successfully introduced this technology to North America.

Plants From Single Cells

"The other area where biotechnology comes in, is when we have detected varieties of species that are the most tolerant of a particular range of toxins. Rather than going straight into a plant breeding programme, we can develop a kind of supertolerant grass.

"Here we don't even bother using seed. We can develop genetically identical clones from very thin sections, sometimes only one cell thick, of the original tolerant parent plant."

Without seeds, SRK can clone hundreds of genetically identical plants all as tolerant as the parent plant.

By growing the clones on the agar jelly, supplemented with a toxic concentration of the problem concerned, the less tolerant can be screened out. The supertolerant material then goes to the conventional plant breeder.

Another exciting development, says Morrey, is the use of "superaccumulators"—plants that absorb high levels of toxic metals from the soil. These can be used to clean up large areas of land surrounding mines, for instance.

Importantly, the metals may then be commercially recovered from the plants that have absorbed them on a large scale.

Studies on State of Air Pollution Offer Conflicting Results

92WN0595A Johannesburg *FINANCIAL MAIL in English* 15 May 92 pp 23-26

[Article: "We're Going On the Air"]

[Text] A difficulty with environmental science is that it is still a young and imprecise group of disciplines that must break new ground in a search for solutions.

Public perceptions aside, problems must first be scientifically identified as such and the degree of existing and potential damage quantified before an attempt can be made at rectification. This is made difficult when little data exists for a particular problem.

A case in point is air pollution over the eastern Transvaal Highveld (ETH).

A bombshell was dropped on the public after a 1988 study, under the auspices of the National Programme for Weather, Climate and Atmosphere Research, concluded: "The (air pollution) emission densities are between five and just under 10 times greater than those found in West Germany and the United States, and approximate the worst conditions found anywhere."

A problem was identified, there were figures to prove it existed, public emotions ran high.

But, shortly after, the Eskom engineering division released results of another study which said: "...on both total emission and power station emission density criteria, it can be clearly seen that South Africa does not even begin to compare with some of the world's highly industrialised regions." (See graphs). [not reproduced]

Is there a problem or isn't there?

The answer is yes, but it may not be nearly as bad as the first study showed. More importantly, how do the negative effects of air pollution weigh up against the positive aspects of electricity supply? And, just how bad is the pollution?

Environmental management company Steffen Robertson & Kirsten's (SRK) Sue Posnik, an air pollution scientist, says: "The initial report was excellent, done by very competent scientists.

"The problem is they didn't have much data to work from, so they took the potential sources of pollution—and some of the other industries concerned obviously wouldn't give any information—and estimated what the total emissions were. They then came up with a budget solution.

"In other words, this is how much is ending up in the air based largely on calculation."

Eskom's 300 m-high smokestacks are designed to disperse the smoke in the upper air layers, so reducing local impact.

Posnik: "Can the atmosphere disperse it? On the basis of calculation the scientists involved in the report have said that X is the volume of air pollutants in the area, but another argument is, does it stay there? Is it still affecting the area?"

"Yes, the ETH has a large amount of pollution but this must be qualified by the fact that we don't really know how much. A lot of work is still being done in the area.

"The problem hasn't been resolved as we don't really know what the true figures are."

The ETH has massive coal reserves and it is for this reason that Eskom has built some of the world's largest power stations in the region. Total installed capacity in South Africa in 1990 was 34,141 MW of which 29,881 MW was coal-fired.

The balance is made up by nuclear and hydroelectric energy generation. Fully 65 percent (19,031 MW) of coal-fired capacity comes from power stations in the ETH. Much of this powers the PWV [expansion not given] region, the most industrialised area in Africa and, possibly, the southern hemisphere.

Air pollutants from electricity generation include sulphur dioxide (SO₂), nitrogen oxides and particulate matter. Carbon dioxide (CO₂), a "greenhouse gas," is also produced in large quantities.

But, all the blame cannot be laid on Eskom's shoulders. Veld fires make for a huge pollution problem in the winter months and other industries in the ETH also generate more than their fair share of air pollution.

Eskom figures show that, while S.A.'s total anthropogenic (man-made) CO₂ emissions comprise only 1.6 percent of the global total, veld fires are estimated to constitute between 0.5 percent and 12 percent. And 50 percent or more of total global CO₂ emissions may come from burning biomass (veld, forests, and so on). Added to that is the major localised pollution in Black townships caused by coal fires used for cooking and heating (see graph). [not reproduced]

Eskom has risen to the environmental challenge over the years through ongoing research, mothballing of inefficient power stations and the introduction of technology to minimise air pollution. The determining factor in air quality control may be found in the principle of best practicable means (BPM).

Air quality in South Africa is controlled under legislation enacted in 1965 by the Chief Air Pollution Control Officer (Capco) of the Department of National Health and Population Development. The Capco sets particulate emission standards based on overseas experience, sometimes modified to suit local conditions.

Economically, there is no feasible method of generating a large-scale electricity supply without some harmful environmental impact. Even hydroelectric power creates its own

environmental damage through, among other things, siltation and downstream water supply disruption. Nuclear power probably has as many proponents as it does opponents.

As a result of over 10 years of research and monitoring site measurements, Eskom has a huge database which quantifies to a large extent what pollution levels actually are.

From this data Eskom concludes that, though technology does exist to reduce emission of pollutants, the present air quality does not justify its use and the costs are exorbitant.

For example, flue gas desulphurisation would add 20 percent to the cost of electricity generated in the lifetime of a power station—an additional outlay of about R1bn. Eskom points out that R1bn would provide electricity to some 420,000 homes, representing a large township the size of Sharpeville and Sebokeng combined.

This should be seen as essential when considering just how harmful present air pollution in the townships is. Again, socioeconomic problems exist in lower-income groups that cannot afford stoves or electricity.

The Durban Corp, for one, is considering a novel approach in supplying new low-cost housing with electric stoves included.

Eskom believes that township electrification could reduce township emissions by 75 percent. This would reduce SO₂ and particulate levels by a massive 65 percent—the cost savings to the S.A. economy through improved health are unquantifiable, but obviously huge.

After heated public reaction to early reports on other atmospheric ills, such as greenhouse effect and ozone depletion, some camps are beginning to change their stances. Which again brings us back to actions based on inadequate data.

For example, it is being questioned whether man contributes significantly to the greenhouse effect. P. J. Blackbeard, Eskom technology research & investigations manager, says: "The greenhouse effect is not synonymous with CO₂. And there is much uncertainty among scientists about the issue of global warming as indicated by the Intergovernmental Panel on Climate Change (IPCC).

"The climate of the earth has always been at a semi-steady state, with periodic shifts between ice ages, which occur at 100,000-year intervals. We are currently approaching the end of a warm interglacial period."

The IPCC adds: "Natural climate variations are such as to mask any enhanced greenhouse signature in the available data record."

On computer modelling of the greenhouse effect, SRK's Posnik says: "We are getting results that show that we could experience a global temperature increase but the inputs of the models being used are limited as we don't have enough information.

"We are trying to predict climate change over thousands of years when we only have 100-120 years' data. We don't

understand enough about the effect of the ocean or the ocean-atmosphere interaction, for example.

"So, all in all, with so many unknowns and so many assumptions in the models, we have no generic proof of dramatic changes in the global climate."

And what of the ozone controversy? Ernst Brunke of the CSIR's [Center for Scientific and Industrial Research] division of earth, marine & atmospheric science & technology, says: "The term ozone has become a media buzzword, with which even schoolchildren are familiar these days.

"Ozone is one of the most important trace gases in the atmosphere both from a beneficial as well as from a detrimental point of view.

"Paradoxically, man is producing ozone in the boundary layer, where it is not wanted, because of its toxic effects, but destroying ozone in the stratosphere, where it is essential in blocking out biologically harmful ultraviolet radiation (UV-B).

"The detrimental consequences in store for life on earth as a result of stratospheric ozone depletion, the time frame for phasing out ozone-destroying CFCs, and the search for environmentally friendly safe alternatives, are topics currently widely debated by the business community and by governments worldwide.

"The recent discovery of an ozone hole in the northern hemisphere has once again highlighted international environmental concern and prompted some Western countries to act with greater speed in the cessation of their CFC production.

"In an endeavour to coordinate and direct ozone-related research in S.A., a steering committee dubbed Sanorp (S.A. National Ozone Research Programme) was formed last year under the auspices of the Department of National Health and Population Development," says Brunke.

"Sanorp comprises the CSIR's division of earth, marine & atmospheric science & technology, Natal University and the Weather Bureau. All three institutions are actively engaged in finding answers to different aspects of the ozone problem.

"Besides Sanorp, sundry other organisations exist which are involved in ozone research. These include Eskom, the University of Cape Town and the National Botanical Institute.

"The individual contributions of these various research efforts can be summarised as follows:

—Tropospheric background measurements of ozone have been conducted by the CSIR at Cape Point since 1982. These are supplemented by measurements of ozone-destroying gases such as the prominent CFCs (F-11, F-12 and F-13), carbon tetrachloride, methyl chloroform and nitrous oxide (NO₂);

—Measurements of column ozone—using a Dobson spectrophotometer—have been made by the Weather Bureau in Pretoria from 1964 till 1972. These measurements were resumed again in July 1990 and extended to include weekly balloon-borne ozone sondes into the stratosphere;

—Toms (Total Ozone Mapping Spectrophotometer) data from the Nasa Nimbus 7 satellite have been studied extensively by the University of Natal for the southern African region. In addition, the latest state-of-the-art spectrophotometer (SOAZ) has been acquired last year by this university and will be set up in Antarctica in 1993 as part of the Antarctic Stratospheric Ozone Research Programme (Asorp);

—Eskom maintains a ground-based network of ozone stations in the eastern Transvaal, while several municipalities monitor ozone in our larger cities;

—In order to assess the possible pollution effects from various types of fuels and using different combustion engines, the Energy Research Institute of the University of Cape Town is conducting valuable smog chamber studies; and

—To assess the effects of UV-B radiation on plants, the stress ecology unit of the National Botanical Institute has adapted a Nasa computer model for S.A. conditions. The programme is able to predict UV-B levels for various geographic positions and times of the year.

"As it becomes clear from these contributions, ozone poses a multi-faceted research challenge, which is being fairly well addressed, though ample scope exists for additional work," notes Brunke.

"In S.A. cities, the issue of photochemical smog warrants attention, especially once unleaded petrol is introduced in S.A. within the next few years, a step which may not be as environmentally friendly as it appears at first glance.

"Lead-free petrol, which is refined to a larger degree to produce the required octane rating, produces a higher concentration of ozone precursors, such as hydrocarbons and NO₂, if not removed by catalytic converters.

"However, since catalytic converters are expensive, they are unlikely to become compulsory while the motor industry is depressed.

"The likelihood of an increase in ozone levels and concurrent photochemical smog in S.A. cities is hence real."

What is envisaged for the future?

—Ozone levels and associated photochemical smog in our large cities should be closely monitored in view of the anticipated introduction of unleaded fuel;

—One or more stations should be set up to monitor biologically harmful UV-B, which is bound to rise as total ozone falls. It would be appropriate to send out regular warnings to the public if high levels of UV-B are being encountered. Such a service is already being offered to the public by certain countries, notably Australia;

—Since changes in ground-based ozone in the remote troposphere are not well established yet, its measurement should be continued and expanded to also include nitrogen oxides.

This should lead to a better understanding of the chemical cycle of ozone in the "remote troposphere."

The measurements of Beryllium 7 started earlier this year, should provide valuable information on stratospheric-tropospheric air exchange processes; and

—The research work conducted on stratospheric ozone involving satellite data, spectrophotometric measurements and balloon ascents (University of Natal and

Weather Bureau) should be consolidated to obtain a better understanding of the processes governing column ozone on a synoptic scale over southern Africa.

"Past research has shown that ozone is full of observational as well as theoretical surprises—future endeavours may likewise not disappoint us," says Brunke.

Former Minister Reviews 3 Gorges Project

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[Article by Qian Zhengying (6929 2973 5391), vice chairman of the Chinese People's Political Consultative Conference National Committee and former minister of water resources and power: "My Understanding of Three Gorges Project"]

[Text] The feasibility report compiled from the Three Gorges Project appraisal results has been examined and passed by the State Council and will soon be submitted to the National People's Congress [NPC] for examination and approval. Intensive work has been going on for more than five years since the appraisal started in July 1986. As a sponsor of the appraisal work, I have many impressions and now talk about my personal understanding of three issues.

I. Understand the Significance of Three Gorges Project From the Perspective of Historical Evolution of Rivers and Lakes

There have been quite a lot of discussions from various circles on the specific benefits and significance of the Three Gorges Project in terms of antiflood benefits, power generation, and shipping. Through many years of appraisal, I believe that the fundamental significance of the Three Gorges Project should be further understood from the historical evolution of rivers and lakes.

Seas changes into mulberry fields and mulberry fields into seas—this is a manifestation of the movement of the earth's surface layer and is independent of man's will. As for the Chang Jiang, the birth, growth and demise of ancient Yunmeng marsh and today's Dongting Hu are vivid examples.

The Chang Jiang has a drainage area of 1 million square km above the Three Gorges, mainly in the mountainous areas between the Kunlun Shan and the Wushan mountain range. Of the 800,000 square km of drainage areas below the Three Gorges, there are more than 120,000 square km of alluvial plains on both banks formed of silts brought down by the Chang Jiang. When floods and rainstorms in mountainous areas in the upper reaches dash down the Three Gorges and enter the alluvial plains in the middle and lower reaches, there must be a flood regulating place. Before the Eastern Han Dynasty [25-220], Yunmeng marsh, or the Jiangnan Plain today, was responsible for regulating flood water in the middle reaches of the Chang Jiang. In ancient times, the waters of the Chang Jiang entered Yunmeng marsh after flowing out of the Three Gorges. At first, there was initially no distinction between rivers and lakes, and the river waters flowed freely in the lakes and ponds of Yunmeng marsh, and the silts brought along by river waters were gradually deposited into the Jing Jiang Delta. After the Southern Song Dynasty (1127-1279), the Jing Jiang Delta continued to expand and became the Jiangnan Plain, and a river course formed at its southern edge, which is today's Jing Jiang. After the formation of the Jiangnan Plain, with more lands being reclaimed and developed, the river dikes were gradually connected and strengthened and, during the reign of Jiajing of the Ming Dynasty (1561-1620), the Jing Jiang

Dam took shape at its present form. Since then, the Yunmeng marsh, which was responsible for regulating flood waters from the Chang Jiang has evolved into the Jiangnan Plain protected by the Jing Jiang Dam, and the Yunmeng marsh has become a term in China's history and geography.

With the shrinking and demise of Yunmeng marsh, the Dongting Hu on the southern bank of the Jing Jiang gradually took shape and developed. When the Yunmeng marsh was still there, the Dongting area was an area of flatlands dotted with a network of rivers and lakes, and the four rivers of Xiang, Zi, Yuan and Li, which are today called the Dongting river system, were tributaries flowing into the Chang Jiang before the Eastern Han Dynasty. By the time of the Eastern Jin Dynasty [317-420] and the Northern and Southern Dynasties (420-589), due to the expansion of the Hanjiang Plain and the shrinking of the Yunmeng marsh, the water level of the Chang Jiang rose gradually and floods began invading the Dongting Hu. The two catastrophic floods of the Chang Jiang which happened in 1860 and 1870 (during the reigns of Xianfeng and Tongzhi in the Qing Dynasty) rushed out of the Ouchi He and Songzi He on the southern bank of the Jing Jiang and caused an enormous amount of flood waters from the Jing Jiang to enter the Dongting Hu. The flood waters entering the lake also brought huge amounts of silts, preparing the demise of Dongting Hu while helping develop it. According to an estimate by the 1825 maps, the area of Dongting Hu was about 6,000 square km at that time with a volume of 40 billion cubic meters. Afterwards, the lake bed rose gradually due to the silts and large areas of islands and beaches emerged from the water, and the lands were reclaimed for cultivation, causing the area and volume of Dongting Hu to decrease rapidly. In 1949, the area of lake surface was down to 4,350 square km with the volume down to 29 billion cubic meters; in 1983, the area continued to drop to 2,691 square km and the volume to 17 billion cubic meters. The once 800-km-long Dongting Hu has now become a lake divided by large areas of flatlands into three lakes, namely, Muping Hu, Southern Dongting Hu, and Eastern Dongting Hu, connected by flood channels. Following the Yunmeng marsh, the Dongting Hu is shrinking and dying.

The population living on the Hanjiang Plain on the banks of the Jing Jiang and the Dongting area has reached 15 million with 23 million mu of cultivated lands, and these areas have become an important industrial and agricultural production base in our country. With the constant shrinking of the Dongting Hu, the question of how to regulate flood waters from the Chang Jiang has always been a difficult one in harnessing the river since the Qing Dynasty. For 100 years before the founding of the PRC, there were no other options except by painstakingly repairing and raising the dikes. After the founding of the PRC, a comprehensive antiflood plan was formulated. This includes: strengthening water and soil conservation in the upper reaches, building reservoirs on tributaries as well as the mainstream, raising and strengthening the dikes in the middle and lower reaches, and sacrificing parts of the flatlands on both sides of the river for temporary storage of excessive flood waters. During the past four decades, we have done our best to raise and strengthen dikes, raising the discharging capability of the Jing Jiang

(including diversion of floods to Dongting Hu) to over 60,000 cubic meters a second. This, plus the temporary flood diversion on the plain and the antiflood, and flood-relief measures, makes it barely possible to resist the flood peak of 80,000 cubic meters per second. However, according to historical records of the last 800 years, eight flood peaks in the Jing Jiang exceeded 80,000 cubic meters per second with one reaching 110,000 cubic meters per second in 1870. If a flood peak similar to the 1870 one occurs again, the dikes on the southern bank of the Jing Jiang will certainly be breached, and flood waters will make a clean sweep across the protective embankments of Dongting Hu. As the Dongting Hu's ability to divert and store flood water has markedly decreased as compared with 1870, the northern dike of Jing Jiang still faces the danger of being breached. Once the dike bursts, the mighty torrent with a peak of a dozen meters or so in height will directly rush down the Jiangnan Plain, and Wuhan City will be under serious threat. In short, whether the Jing Jiang overflows in the south bank or on both banks, it will cost a tremendous loss of lives and injuries, and the losses will greatly exceed last year's flood damages in the Hui He and Tai Hu. This will not only be a devastating disaster to Hunan and Hubei provinces but also affect the overall economy of the country. The danger increases with the continued shrinking of Dongting Hu.

Through decades of study, a key measure to control the Chang Jiang is to use modern science and technology to build a man-made reservoir in the Three Gorges, and obtain a storage capacity of 40 billion cubic meters, including an antiflood storage capacity of 20 billion cubic meters, at the cost of flooding several thousand mu of land. These storage capacities exceed that of Dongting Hu. By using sluice gates to control water storage and discharge in the reservoir, the ability and reliability in regulating flood waters will far exceed Dongting Hu's natural diversion of flood waters, and the amount of flood waters and silts entering Dongting Hu will be greatly reduced, thus prolonging the life of Dongting Hu. With modern science and technology, we can control the deposits of silts in reservoirs and maintain effective storage volume for a long time. With modern science and technology, we can exploit the huge water energy resources of the Three Gorges and use the output of hydroelectric power to make up for input, thus making the building of the reservoir economically feasible. With modern science and technology, we can avoid interrupting shipping during reservoir construction and, to some extent, improve shipping.

A general survey of the history of development of nature and society in the middle reaches of the Chang Jiang shows that we should and can only resort to modern science and technology in striving for initiatives in the evolution of rivers and lakes, and remove the serious hidden dangers for the people living in the middle reaches of the Chang Jiang. I believe this is the most essential significance of building the Three Gorges Project.

II. Different Opinions Promote the Deepening of Understanding

For several decades, the Three Gorges Project has attracted attention both at home and abroad, and opinions vary on

the project. At the start of appraisal, after collecting and studying various opinions, we summed them up into two major classes: First, how to build the Three Gorges, including whether it should be first-class or second-class exploitation, as well as various designs for water storage. Second, whether the Three Gorges should be built, including whether it is necessary to prevent floods; should the harnessing of Hang Jiang begin from the upper reaches to the lower reaches and from the tributaries to the mainstream; whether the Three Gorges is technically feasible; can the national power afford it economically; can people be resettled; whether there will be serious disadvantage to the ecological environment; and so on.

In view of the above-mentioned questions of two different natures, appraisal work must be divided into two phases. First, select a representative program for the building of the Three Gorges, and then study the overall feasibility of the plan and work out an alternative plan equal or similar to the representative program in terms of efficiency, and compare the pros and cons of building the Three Gorges project and building it sooner or later.

The appraisal work on the Three Gorges is conducted by extensively soliciting different opinions, and it is those different opinions which promote the deepening of understanding and push forward the harnessing of Chang Jiang. Now I present the following issues to show what I have gained in terms of ideological understanding and work.

1. Reappraise and reselect the designed storage level of the Three Gorges reservoir

The designed storage level of a reservoir is a major comprehensive indicator in the building of a reservoir, and it determines the scope and benefit of the project. It goes without saying that the higher the storage level, the larger the storage volume, and the greater the benefit in terms of flood prevention, power generation, and shipping. However, technical problems will increase correspondingly and the damage caused by inundation will also be greater.

Based on past research results, we decided through consultation to select a water level from 150 to 180 meters above the sea. Before the appraisal, many former colleagues from the Ministry of Water Resources and Power and I favored selecting a relatively low water level, i.e., 150 meters. The reason at that time was that fewer people need to be relocated, that the question of silt deposits is simpler, and that as the backwater of reservoir is below Chongqing, the deposit of silts will not affect Chongqing. But our proposal for a lower water level was opposed from two sides. First, as the water level is lower, which results in an inadequate antiflood storage volume, the reservoir will have to be overstored temporarily during an extremely large flood to ensure the safety of the lower reaches. This will require some people living above the reservoir area to be relocated temporarily and thus make them feel insecure and the people in the lower reaches also fear for inadequate guarantees against floods. Second, as far as Chongqing city and shipping are concerned, as the benefits of improving shipping cannot extend to Chongqing, this is seen as affecting the overall interests of shipping. The two different opinions

were locked in a stalemate until the start of the appraisal and failed to reach a common understanding.

During the appraisal, authoritative and representative experts teams were organized to repeatedly and thoroughly study the question of silts and resettlement of people. The conclusion from the two experts teams was that, if the designed water storage level was raised to 175 meters, they were sure that the related questions of silt and relocation of people could be solved. The conclusion of the two teams dispelled our misgivings, and changed our opinions. In the end, all the expert teams jointly approved the water level plan: The water storage level is set at 156 meters at the initial stage, and this will be conducive to the resettlement of people and make it possible to check the effects of silt deposits; the final water storage level will be set at 175 meters, which will comprehensively meet the need of flood prevention and shipping and increase the benefits of power generation.

2. Prudently Calculate Investment in the Three Gorges

Will investment in the Three Gorges Project become a "bottomless pit"? This is the most critical question raised during the appraisal, and it reflects the concern of the broad masses. Indeed, after going through twists and turns in past economic constructions and entering a path of stable development during the last 10 years, everybody is afraid of another "reverse." In the past, in order to get some projects to take off, investments were unrealistically reduced but, once the projects took off, various items of funds were immediately increased. People hated such a practice, calling it a "fishing project." The base of the Three Gorges investment is very large and, if it cannot be contained in the future and becomes a "bottomless pit" of the national economy, the consequences will be unthinkable! In previous protracted work, we members of the appraisal leading group were deeply aware of these problems, and realized that the responsibility was tremendous.

While analyzing why the budgets of some projects were greatly exceeded, the primary factor was the lack of preparatory work at the initial phase, particularly when there was no clear idea about the geological conditions and, when a major geological defect was found after the foundation was dug up, the scope of the project increased substantially. The geological conditions at the dam site of the Three Gorges project are fairly good after a long time of surveys and explorations. This is its favorable condition. The questions of landslides at the reservoir embankments and induced earthquakes raised during the appraisal were all given definite and unanimous answers by geologists and seismologists. However, the Three Gorges Project is, after all, a very big one, and some unpredictable factors are bound to emerge during future construction. Therefore, we repeatedly stress the need for proper leeway in calculation of project scope and investment. In addition to the investment on the core project, the cost of the Three Gorges Project includes resettlement of people and power transmission project, and experts at related fields have been invited to conduct a detailed check. Up till now, no major problems have occurred on the estimation of static investment. That is to say, based on the prices of 1990, total investment in the

Three Gorges Project is 57 billion yuan, including 29.8 billion yuan for the core project and 18.5 billion yuan for the resettlement of people, as well as 8.7 billion yuan for power transmission project. The time limit for the project is divided into three phases: Three years for construction preparations, nine years from the construction of the core project to the generation of power by the first batch of generators, and six years from installment of successive generators to completion of the whole project.

Major differences exist in the calculations of dynamic investment. With static investment as the base, we have to take into consideration the interests of loans and the rate of inflation for all construction projects, and calculate overall demand for funds—that is dynamic investment. According to the calculation method and criteria approved by the State Planning Commission, if the Three Gorges Project is to start in the near future, its overall demand for funds will be roughly 150 billion yuan, including over 60 billion yuan before electricity is generated. After electricity generation, the funds can be gradually repaid from the income of the project itself and the Gezhou Dam, and in the second year after the completion of the whole project, all the loans plus interest will be repaid. Due to differences in the assumed loan interests, particularly the rate of inflation, differences several times the original can occur in calculating dynamic investment. We can only invite economic and financial experts from authoritative departments to give appraisals. They believe that as the loan interests of the Three Gorges Project are repaid from its incomes during the later phase of construction when the project begins to generate electricity instead of using investment for payment, it is not a genuine demand for funds. As there are both input and output of the Three Gorges Project, the rising prices of materials for the input will cause the rising prices of generated electricity, and therefore, the factors of price can be neglected in making economic appraisal.

During the appraisal, we realized that as the average water volume of the Three Gorges of Chang Jiang reaches 450 billion cubic meters, it can be turned into an average of 84 billion kilowatt-hours of electricity annually after the dam is built. Compared with the hydro power stations in other similar rivers (ordinarily an average annual water volume of several dozen billion cubic meters with an average annual power generation of several billion kilowatt-hours), it has great advantageous conditions. Therefore, the cost per kilowatt is relatively low. But as the volume of the power station is very large, its overall investment is also huge. Whether such a huge amount of investment can be supported by the national economic power is a question of concern to the people of the whole country.

As for my personal understanding, in the 1950s and 60s, I believed that the Three Gorges Project should not be launched. In the 1970s, I agreed only to the construction of the project provided that its scope was reduced. But in the 1980's and 90's, I have come to believe that the building of the Three Gorges Project is in line with the national economic level. This can be observed from the main indicator of the Three Gorges—the power generating capability. The installed capacity currently proposed is 17.68 million

kilowatts. At the end of the 50s, the total installed capacity of the whole country was less than 10 million kilowatts; was only 20 million kilowatts at the end of the 60's; and grew to over 60 million kilowatts at the end of the 70's; was already over 120 million kilowatts at the end of the 80's and is estimated to reach 240 million kilowatts at the end of the century. The generating capacity that goes into operation each year in our country is over 10 million kilowatts, and the annual investment in electricity is more than 30 billion yuan. This is incomparable in the past. Even if the Three Gorges Project is not built, other power stations will have to be built in eastern and central China. Even if the total investment of the Three Gorges Project is put into power generation, its proportion in the investment of the whole country in power generation will not exceed the construction cost of the Gezhou Dam.

3. Avoid the adverse impact on ecology and environment by the resettlement of people

How will the Three Gorges Project affect the ecological environment? This is another major question in the appraisal. During the appraisal, by concentrating experts and scholars in related fields to conduct detailed investigation and hold full discussions, the ecological and environmental expert team led by comrade Ma Shijun, late president of China Ecological Society, put forward a comprehensive appraisal and corresponding measures. Recently, in line with the state's relevant provisions, the Environmental Appraisal Department of the Chinese Academy of Sciences and the Scientific Research Institute on Protecting Chang Jiang Water Resources jointly compiled a report on the effects the Three Gorges Project will have on the environment, which has been examined and approved by the State Bureau of Environmental Protection. The results enable us to acquire an overall understanding on the impact the Three Gorges Project will have on the environment.

We believe, in analyzing the pros and cons Three Gorges has on the environment, more efforts should be made to study the possible adverse effects and conscientiously study corresponding measures. On adverse effects, particular attention should be paid to problems that may occur in the resettlement of people and take effective measures to avoid them.

In the course of building the Three Gorges Project, more than 1 million people need to be relocated. Half of them are residents in towns and townships, and the other half rural residents. Relocation of cities and towns generally does not alter the original production conditions for city and town residents. However, production conditions will have to be rearranged for rural residents as the reservoir will submerge 360,000 mu of cultivated lands (including 110,000 mu of paddy fields) and 750,000 mu of orange and tangerine fields. The rural people to be relocated and the lands to be submerged scatter among 19 counties and cities around the reservoir with a periphery of 2,000 km, the proportion of lands to be submerged in each county or city is not large, and no township will be submerged entirely. This is a favorable aspect. But it should be noted at the same time this is one of the most impoverished areas in the country, where indiscriminate cultivation and logging in the past has

brought a grave situation to the ecological environment. If we do not have a unified plan and leadership over the resettlement of people, it will certainly encourage indiscriminate cultivation and logging and worsen the ecology and environment. From another perspective, it will also be the best opportunity to reform the local environment and help people get rid of poverty and become rich if the huge amount of investment in resettlement can be used under scientific unified planning and strengthened leadership. Therefore, resettlement of people is both a challenge and an opportunity for the area. It is understandable that the vast numbers of local cadres and masses long for the start of the Three Gorges Project.

Therefore, we totally accept the proposals by the expert teams and make clear the need to take the building and maintenance of a good ecological environment as the goal in reforming and rebuilding the areas surrounding the reservoir, change the method of compensating once and for all the people affected by the resettlement, and adopt the principle of developmental resettlement. That is to say, we should make overall arrangements for the people in terms of production and livelihood, and create conditions for the long-term development in the reservoir areas. Based on the above goal and principle, tests on developmental resettlement were conducted at selected areas, and successful and convincing results were achieved. In the future, we should do a good job of the planning of state lands, bringing urban and rural building, resettlement project, exploitation of resources and environmental improvement into line with the overall plan. While regarding the reservoir area as a complex of natural-social environmental system, we should use the method of systems engineering to work out a comprehensive exploration plan with multiple goals and functions. The formulation and implementation of the comprehensive plan needs the participation of ecological and environmental experts. We should also set up a monitoring system to keep track and monitor the ecology and environment in the drainage areas of the Chang Jiang in order to make timely scientific predictions and adopt counter measures.

4. Promote water and soil conservation in the upper reaches of Chang Jiang

Soon after the start of appraisal in 1986, quite a number of comrades were especially worried about the question of silts of the Chang Jiang, holding that there existed the danger of the Chang Jiang becoming the second Huang He as the erosion of water and soil would get worse in the upper reaches and the silts in the river would increase. Will there be the possibility of silting up if the Three Gorges reservoir is built under such conditions?

We conducted serious investigation and study on the subject, and believed that soil erosion was indeed worsening in quite a number of places in the upper reaches of Chang Jiang due to indiscriminate cultivation and logging. As the geological and climatic conditions in the upper reaches of the Chang Jiang differ from those in the Huang He, the consequences of soil erosion also differ. The drainage area of the Huang He is mainly the loess plateau. The earth particles washed away in rainstorms are very small and

practically all enter the mainstream through gullies and tributaries. Therefore, although the average annual water volume of the Huang He is only over 40 billion cubic meters in the Sanmen Gorge, the average annual amount of silts was 1.6 billion tonnes. The upper reaches of the Chang Jiang are mainly rocky mountainous areas. After the surface soil is eroded, the remaining objects are rocks and the particles are relatively large. The majority of them piled up in valleys and tributaries, and small amounts flow into the mainstream. Therefore, the average annual water flow volume of the Chang Jiang in Yichang was 10 times that of the Huang He in the Sanmen Gorge (namely, 450 billion cubic meters) but with the average annual silts at only one third (0.5 billion cubic meters). On the question of silts in the Three Gorges, thanks to the experiences accumulated in rebuilding the Sanmen Gorge Dam in the Huang He and designing the Gezhou Dam in the Chang Jiang and the cross-reference examinations from numerous models made by silt research units from the departments of water resources, transport, and education, experts unanimously believe that it is possible to maintain the life of the reservoir and safeguard shipping for a long time. But, particular attention should be paid to the harm of soil erosion in the upper reaches of the Chang Jiang to local people and, in a certain sense, it is more harmful than the Huang He. The surface soil in the rocky mountainous areas of the Chang Jiang is very thin, and unlike the loess plateau where there are thick layers of earth, once the surface soil is eroded in the rocky mountainous areas, it will mean the loss of production conditions for the local people, and the consequences are very grave.

Based on the above understanding, the former Ministry of Water Resources and Power submitted a report to the State Council in 1987 urging an earlier start to strengthen water and soil conservation in the upper reaches of the Chang Jiang regardless of whether or not the Three Gorges Project is to be built, and suggested that equal attention should be paid to water and soil conservation in the upper and middle reaches of the Huang He. The State Council approved the report, set up in 1988 a committee on water and soil conservation in the upper reaches of the Chang Jiang, and included the areas in Jinsha Jiang, Jialing Jiang, and Wu Jiang, where there are serious soil erosions, as well as the two banks of the Three Gorges, into the plan for key state support. In addition, the State Council also approved the building of a protective forest system on the upper reaches of the Chang Jiang.

5. Pay attention to building tributary reservoirs

During the appraisal, quite a number of comrades believe that due to the sheer size of the Three Gorges Project, reservoirs should be first built on various tributaries of the Chang Jiang to facilitate control of floods and exploitation of water resources.

In planning the drainage areas of Chang Jiang and appraising the Three Gorges Project, research was conducted on reservoirs in major tributaries of the Chang Jiang, and the conclusion was that the reservoirs on the mainstream and the tributaries are part of the overall harnessing and development of the Chang Jiang, with each having its unique role, and that they complement but do not replace

each other. The reservoirs on each tributary play an irreplaceable role in guarding against local floods and exploiting local water resources. The function of the Three Gorges reservoir is, first of all, to control the 681 000 square km of rainstorm areas, which no other reservoirs on the tributaries can do, and to exploit water resources and discharge to the mainstream. In studying the feasibility of the Three Gorges project, we must guard against the tendency to emphasize the main river while neglecting tributaries.

Based on this understanding during the appraisal, we actively supported the building of tributary reservoirs where conditions were ripe. From 1986 until now, large-scale tributary reservoirs that were launched one after another include Wanan in Jiangxi's Gan Jiang, Yichuan in Hunan's Qing Jiang, Wuqiangxi in Hunan's Yuan Jiang, Liangjiang in Guizhou's Wu Jiang, Baiyao in Inner Mongolia's Huang He (tributary of the Jialing Jiang) and Ermen in Shaanxi's Huang He. Feasibility reports that are now being compiled and examined include Zipingpu in Sichuan's Min Jiang, Hechuan in Jialing Jiang, and Jangwa in Hunan's Yuan Jiang.

I raised the five questions above only for reference. In short, through appraisal of the Three Gorges Project, we have further realized that water resource is an underlying basis for mankind to adapt to other natural factors and modify the water environment, a basic industry to the national economy, and an important subsystem in the macro system of development of population, economy, and environment. Different opinions on water conservation measures reflect various aspects of the system. We should, through debate, absorbing different opinions, try our best to make our understanding in line with reality and reduce mistakes in work.

III. Organizing Implementation Is a More Difficult Task

The completion of the Three Gorges Project feasibility report is only the first phase in understanding the project. It is still necessary to check, replenish, and revise our original understanding in the course of organizing implementation. The appraisal work on Three Gorges Project is a complicated systems engineering project; the organization of implementation is a bigger and even more complicated systems engineering project. We must fully aware the possible difficulties in organizing implementation and successfully lower our guard.

Through appraisal, we deeply understood that it is under the socialist system that a project like the Three Gorges, which transcends regions, departments and countries, can be most likely realized. Therefore, only by genuinely grasping and making the advantage of the socialist system can we guarantee the completion of the project.

While talking on genuinely giving full play to the advantage of the socialist system, we refer to the fact that, in many things in our work at present we have not really given full play to the advantages of the socialist system. To guarantee the victorious completion of the Three Gorges Project, we must guard against such an unhealthy phenomenon. For instance, since the Three Gorges Project transcends regions and departments, it requires the regions and departments

involved to proceed from the overall situation in everything and highly promote the spirit of unity and cooperation, and never degenerate into any form of departmentalism. The Three Gorges project spans this century and will last into the next, and this requires leadership at all levels to strengthen rule by law and ensure the continuity of policies and plans. We should never allow politics to follow the change of personnel or alter policies and plans at will. The Three Gorges Project is gigantic in size with a long time limit, and this requires more hard work, careful organization, and improved efficiency. We should try our best to shorten the project time limit and we should never allow laxity and sluggishness and thus miss an opportunity. The Three Gorges Project will be an important project of the whole country, with huge investment and large amounts of equipment and materials, and this requires better implementation of the principle of hard struggle and plain living, and of building the country through thrift and hard work. We should allow no waste and extravagance, call for making contributions to the key project, and prohibit the idea of taking advantage of the state. The Three Gorges Project is complicated in technology with a significant impact, and this requires strict observance of science and safeguarding of quality. We should absorb advanced technologies and management experiences from at home and abroad and never mess things up by giving wrong orders or acting recklessly in violation of science.

To this end, I raise the following proposals:

1. Basic construction procedures must be strictly observed. In the feasibility report, we propose that the capital construction procedure for the Three Gorges Project is as follows: After the approval of the feasibility report, an overall preliminary design is to be made. Based on the preliminary design approved, we should put forward the technical designs of separate projects and, after their approval, start work based on the detailed work charts. Therefore, if the current NPC session approves the feasibility report, as the next step we should do a good job in drawing preliminary plans. Work can only start after the preliminary plans are approved and included in the state plan.

2. Under the direct leadership of the State Council, we should build a powerful project commanding body responsible for issuing unified commands on the project construction as a whole and on the resettlement of people. This body should have high efficiency, work on the spot, and can exercise effective coordination and command over related departments and regions.

3. Carry out the spirit of reform, absorb advanced management experiences at home and abroad, set up a mechanism to mobilize the initiatives of the vast numbers of masses and cadres, and define the responsibility of leadership at various levels.

4. Use the progress of science and technology to guarantee the building of the Three Gorges project and promote our country's advance in science and technology through the Three Gorges Project.

5. Strengthen socialist ideological education and the building of spiritual civilization, and set up good work styles in project construction.

I believe, under the leadership of the CPC and given the socialist system with Chinese characteristics, we will surely be able to accomplish another historic task for the Chinese nation—victoriously complete the Three Gorges Project!

Academy Research Group Warns of Environmental Deterioration

OW1105143092 Beijing XINHUA in English 1345 GMT
11 May 92

[Text] Beijing, May 11 (XINHUA)—A research group of the Chinese Academy of Sciences—a leading science think tank—has been publishing a series of research reports and books warning the government about the deteriorating ecological environment in China.

The China Eco-Environmental Research Group, led by Professor Niu Wenyuan, a theoretical geographer of the academy, released its first study entitled "Ecological Deficit" in 1989. The 50,000-word report gave a full account of the country's population, resources, and social and economic problems in its development.

"Ecological Deficit" was a landmark research paper marking the beginning of the environmental research in China shifting from pure natural science research into the multidisciplinary research of the relations between man and nature. "The study has attracted nationwide attention among China's scientists and government leaders," an official from the State Commission of Science and Technology remarked.

Since 1991, the Chinese Government has paid increasing attention to the study of ecological and environmental situation. An enlarged research plan has been worked out and competent researchers from the State Administration of Environmental Protection, Agriculture Ministry, Ministry of Aeronautics and Aeronautics Industries, and Ministry of Nuclear Industry have joined the research group, which presented its latest warning report to the government last month.

"I hope in the future the Chinese Academy of Sciences will present to the government warning studies every two years, pointing out the country's existing eco-environmental problems, potential dangers, and potential solutions to these problems," said Professor Niu Wenyuan.

The research group's eventual objective is to build "a diagnosis system of China's social and economic problems" with a data bank, theoretical models, critical valve, and supporting policies, according to Professor Niu.

"From now on, our group will focus our research on the balance of China's warming gases, the growth and disappearance of green land, the diversity of species, the impact of acid rain on China, the distribution of fragile ecological regions of the country, and the handling of radioactive dust and nuclear waste," said Dr. Wang Yi, another member of the research group.

Industries Makes Better Use of Waste Materials

OW1206111792 Beijing XINHUA in English 1042 GMT
12 Jun 92

[Text] Beijing, June 12 (XINHUA)—As part of the efforts to comprehensively control pollution of the urban environment, China has made great achievements in utilizing waste materials, particularly industrial wastes.

Statistics showed that in the past five years, the country's output value from projects using waste materials reached 26 billion yuan. During the period, 140 million tons of waste iron and steel was collected and a total of renewable resources worth 35 billion yuan was retrieved.

The quantity of solid industrial wastes that were utilized increased to 169.43 million tons in 1990 from 95.3 million tons in 1984. Meanwhile, the utilization rate of the wastes rose to 29 percent from 22 percent.

It is reported that the non-ferrous metal industry has managed to retrieve 73.3 percent of the total retrievable wastes.

Experts attributed these achievements to the government's policies and measures to encourage the use of waste materials, particularly the industrial wastes.

UNCED Delegate on China's Environmental Situation

OW1306133692 Beijing BEIJING REVIEW
in English No 23, 8-14 Jun 92 pp 14-16

[Interview with Xia Kunbao, member of the China Inter-Ministerial Coordinating Group for the 1992 UN Conference on the Environment and Development, by BEIJING REVIEW reporter Li Ping: "Environment and Development: A World Issue"; place and date not given.]

[Text] The United Nations Conference on the Environment and Development to be held in Brazil this June will have a major impact on the future of mankind. In an interview with Beijing Review Reporter Li Ping, Xia Kunbao, a member of the China Inter-Ministerial Coordinating Group for the 1992 UN Conference on the Environment and Development, talked about China's preparation for the conference, the environmental situation in the country today and China's principal position on the issue of protecting the global environment.

[Reporter] *What work has China done to prepare for the coming conference?*

[Xia Kunbao] In accordance with United Nations requirements, a Coordinating Group has been set up which consists of the Ministry of Foreign Affairs, the State Planning Commission, the State Commission for Science and Technology and the State Environmental Protection Administration. The Coordinating Group, charged with the responsibility to prepare for the conference, to date has completed the following items of work:

- It has confirmed China's principal position on the issue of protecting the global environment.
- In light of conference requirements, the Coordinating Group organized experts to draw up the National Report

of the People's Republic of China on the Environment and Development. The report presents a comprehensive and objective account of China's policies and endeavours to address the environmental and development problems which have plagued China since 1972, particularly in the 1980s. It also introduces in a systematic way the nation's approach to integrating environmental protection and economic development in line with China's specific conditions, describes the major environmental problems facing China and elaborates on China's views and attitude towards the issue of the environment and development. The report, submitted to the third session of the Preparatory Committee of the United Nations Conference on the Environment and Development, won high praise.

China successfully sponsored the ministerial conference on the environment and development in Beijing in June 1991. It was attended by ministers of 41 countries. The conference approved the Beijing Declaration and co-ordinated the position of developing countries on the issue of the environment and development.

—In April this year, the China International Cooperative Committee on the Environment and Development was set up in Beijing. The committee, made up of world experts on the environment and development, is mainly responsible for making recommendations to the Chinese government in order to promote co-ordinated development of the environment and economy. It is the first such group of its kind in the world and has set a positive example for resolving global environmental problems through international cooperation.

[Reporter] *China has the largest population in the world and its economy is in the primary stage of development. What is the environmental situation today in China?*

[Xia Kunbao] China has listed environmental protection as one of its basic national policies and made active efforts in this regard. Remarkable results have already been achieved. In the 1980s, the GNP [gross national product] increased at an average annual rate of 9.6 percent and kept its environmental quality relatively stable. The emission of industrial waste water and solid waste per 10,000 yuan worth of industrial output was reduced by a considerable degree. The specific standards reached in regard to the emission of industrial waste water, air-borne pollutants and comprehensive recycling of solid wastes have all been quite dramatic. Forestry construction has made rapid progress in the plain and coastal areas and, to date, China has set up 606 nature preserves totalling 40 million hectares. Some rare animal and plant species which were facing extinction have been saved. China has already embarked onto a road to environmental protection, a road with Chinese characteristics. This wins the praise of the international community.

Nevertheless, China also faces the serious threat of environmental pollution as its economy develops. The problems are mainly seen in the following areas: Over-exploitation of land resources is unlikely to be alleviated and deterioration of the agricultural ecology is likely to occur, forest ecology is relatively fragile, water shortages in north China are serious, and the reliance on coal for energy supplies is unlikely to

change in a considerably long period of time. This last issue is of particular importance since the technology used to burn coal is not very efficient and no breakthrough is made in coal gasification. Thus, the problems of air pollution and acid rain are likely to worsen. Overall, the contradiction between rapid urbanization and a backward infrastructure will not ease in the near future. Although the environmental quality in some specific cities will see some improvement, cities, overall, will not see a basic change in their environmental quality.

[Reporter] *The Chinese government has come up with a development plan which incorporates environmental protection with a national socioeconomic programme. What is the main goal of this plan and what measures will be taken to achieve the goal?*

[Xia Kunbao] In the 1990s, China will realize an average annual increase in its GNP of about 6 percent on the basis of improving economic efficiency and economic structure. As well, the standard of living will be raised from a level which ensures basic provision of food and clothing to one of relative comfort.

By the year 2000, as the national economy develops, China's environmental pollution will be brought under control and the environmental quality of the key cities will improve to varying degrees. Ecological deterioration will be halted.

To achieve the above-mentioned objectives, China will not only adhere to the relevant guidelines and policies currently in effect but also expand work in the following way:

- To formulate industrial and economic policies and strategies for technological development which will address environmental issues while promoting economic and social development;
- To continue to implement and improve policies and measures for environmental protection which have proved effective, strengthen environmental management and increase scientific and technological input used to control pollution and prevent ecological imbalance;
- To increase investment in environmental protection in tandem with a growing economy;
- To obtain foreign financial and technical assistance through extensive international cooperation based on the principle of equality and mutual benefit.

[Reporter] *Mankind is now beset with a series of environmental problems of global significance and the sustained development and conditions for mankind's survival are under increasing challenge. What is the Chinese government's principled stand regarding these global problems?*

[Xia Kunbao] The Chinese government believes that coordinated efforts by and effective cooperation among various countries and regions in the world are the key to the solution of these problems. In order to mobilize all forces and tap every potential for effective international cooperation to protect the earth's ecology, the following principles should be followed:

—Environmental problems which arise during development can only be solved in the process of the development. Although economic development does bring about environmental problems, it cannot be halted for the sake of environmental production.

—The special conditions and needs of the developing countries should be taken into full account in any international effort to co-operate on environmental protection. Two points should be kept in mind when making such an effort: First, to many developing countries, poverty and backwardness are the root cause of environmental degradation. Therefore, it is essential to put international environmental cooperation on the basis of equality and, under the prerequisite of strengthening North-South cooperation, to establish a new international economic order conducive to the sustained economic development of all countries, developing countries in particular. Second, domestic environmental problems which have remained unresolved for a long period of time, such as desertification, floods and droughts and the quality and supply of fresh water, are more crucial to many developing countries than such global problems as climate change and ozone layer depletion. This fact should receive adequate and down-to-earth attention from the international community.

—There should be a clarification of the main responsibility for global environmental degradation to date. Since the Industrial Revolution, the developed countries, in their process of industrialization, have exploited the environment without heeding the consequences of actions. The environmental problems we face today are thus mainly the cumulative results of this kind of behaviour. The developed countries are still the main consumers of the world's limited resources and remain the world's major source of pollutants. The international environmental cooperation, therefore, must be based on the principle of common but differentiated responsibilities. The developed countries are obliged not only to take the lead in adopting measures to protect the environment but make more contributions to international co-operation in two aspects: First, they should provide developing countries with new and additional financial resources to enable them to participate more effectively in international environmental co-operation or to compensate for their economic losses incurred in implementing obligations under international recognized legal instruments. The adequacy and additionality of such financial aid must be emphasized. This implies that financial assistance must not be symbolic or merely a reallocation of currently available amounts. Second, developed countries should provide developing countries with the necessary environment control technologies on preferential and non-commercial terms.

—International environmental cooperation should be conducted with full respect for the sovereignty of all states. Environmental protection considerations cannot be used as a condition for providing development assistance and, more importantly, cannot be used as a pretext for interfering in the internal affairs of other countries or for

imposing a certain type of social and economic pattern or a particular set of values on other countries.

—Extensive and effective participation of developing countries should be ensured in any effort to protect international environment.

Whether or not efforts to protect the ecology can achieve expected results will, to a large extent, depend on substantive progress in resolving the issues of financial resources and transfer of technology. China hopes that the substantial elements governing financial resources and transfer of technology will be clearly spelt out in relevant legal documents at the conference, with clear and specific provisions regarding the sources, scale, use and management of such finances.

Chemical Industry Devises Environmental Protection Plan

HK1406052692 Beijing CHINA DAILY (BUSINESS WEEKLY SUPPLEMENT) in English 14 Jun 92 p 4

[By Zhang Yu'an: "Industry in War Against Pollution"]

[Text] One of China's worst polluters, the chemical industry, has worked out a plan to reduce the amount of filth it produces.

A Ministry of Chemical Industry official said over the weekend the industry also seeks to maintain growth to better protect the environment.

The plan calls on large and medium-sized chemical firms to increase their use of recycled water by 25 percent; reduce their volume of waste water released by 30 percent; and cut discharge of pollution-making materials in major chemical products by 20 percent of the 1990 figure by 1995.

Tight controls will be implemented on the discharge of pollution-causing elements of heavy metals, radioactive and other organic materials.

Discharge of pollution-making water, materials and gas should all reach State standards in tourism cities and State-protected areas, the official said.

Sewage disposal and waste gas harnessing should be increased by 20 and 15 percent respectively in 1995 from 1990 figures while one fifth of the industry's firms should reach the standards of clean factories.

The ministry will increase investment and spread the use of new technology in environment protection to ensure the goals are realised.

The official did not reveal how much would be spent on environment protection in the next three years.

The ministry has spent 7.2 billion yuan (\$1.31 billion) on environment protection in the industry since the early 1980s. And special technicians involved in the industry's environment protection now number 2,500.

The investment has helped the industry to develop pollution control projects.

Pollution caused by sewage, waste materials and hazardous gas discharges in chemical firms has almost been brought under control, the official said.

Hubei Nature Reserve Listed in World Bank Biodiversity Plan

OW1606020792 Beijing XINHUA in English 0117 GMT 16 Jun 92

[Text] Wuhan, June 16 (XINHUA)—The Shennongjia Nature Reserve in western Hubei Province, central China, has been listed in the projects for protection of biological diversity by the World Bank.

The related departments of the Chinese government are now conducting a feasibility study for the implementation of the project, according to Zhang Quanyi, an official of the nature reserve.

Zhang noted that the Shennongjia Nature Reserve covers 70,467 ha. as a precambrian system, protophyte and secondary plant communities remain intact in the nature reserve. It was accepted as a member of the "man and the biosphere" network by the United Nations Educational, Scientific and Cultural Organization in 1990.

The official said that there are 2,419 higher microtubular plants and 406 vertebrates, including 50 valuable animals and 39 rare plants under state protection in the reserve.

The Chinese Ministry of Forestry and the World Wildlife Fund held a symposium on China's nature reserves in February in Beijing. Chinese and foreign experts said at the symposium that protection of Shennongjia has international significance.

Last April officials from the World Bank visited Shennongjia and praised the protection work there.

Biologists, zoologists and geologists from the United States, Canada, France, Germany and the former Soviet Union have also visited and shown great interest in Shennongjia in recent years.

Zhang said that the Chinese government has always paid close attention to Shennongjia, which was established in 1982. The State Council approved it as a state forest and wildlife nature reserve in July 1986 and worked out regulations governing the reserve soon afterward.

In the past decade the timber stand and population of wildlife in the nature reserve have increased remarkably. Surveys show that the number of golden monkeys has jumped 30 percent to 500. Rare animals such as white bear, white chamois, white monkey, white snakes and white river deer are also more frequently sighted in Shennongjia now.

Efforts To 'Green' Northern Provinces Described

OW1706050492 Beijing XINHUA in English 0446 GMT 17 Jun 92

[Text] Jinan, June 17 (XINHUA)—"Long long ago, there were herds of elephants and boundless forests on the loess plateau.....," and archaeologists might show you unearthed ivory fossils to bear out their story.

No matter if the story is true or not, China is trying to green the more than 600,000 sq km of loess plateau, the largest of its kind in the world, and things seem to be quite optimistic.

Suide county of Yan'an prefecture in northwest China's Shaanxi Province is located right on the loess plateau, and is known to the world for its serious soil erosion. However, the county's Jiuyangou valley is now bearing a brand new image—all the loess gullies, ridges and mounds have been covered with greenery.

Jiuyangou is only one of the demonstration bases managed by the suide soil and water conservancy experimental station. Other experimental stations on the loess plateau, which are all attached to the Yellow River Water Conservancy Committee, have also established their own demonstration bases, which have been proved as successful.

With over 40 years of efforts, the water conservancy departments have found out that the most effective way to carry out the great project of greening the whole plateau is to begin with the harnessing of small river valleys.

The loess plateau stretches over Qinghai, Gansu, Shaanxi, and Shanxi Provinces and the Ningxia Hui and Inner Mongolia Autonomous Regions, with 70 percent of its surface, or some 430,000 sq km, suffering from soil erosion. An annual average of 1.6 billion tons of silt flows into the Yellow River, raising the river bed by 10 cm every year.

Experts say the soil erosion on the loess plateau has been caused by two reasons. One is natural factors such as land quality and rainfall. The other is over reclaiming of the forests and grassland in history.

Wang Fengwei, senior engineer from the Bureau for Management of the Middle Reaches of the Yellow River, said that China began large-scaled harnessing projects on the loess plateau soon after the liberation of the country in 1949. By now some 30 water conservancy research units have been set up on the plateau, which boast of China's best water conservancy personnel.

These experts have worked out a complete series of water conservancy measures and patterns, such as the building of terraced land, silt-trap dams, and the planting of trees and grass on precipitous slopes.

Wang said that so far 140,000 sq km of the soil erosion area have been brought under control, with eight million ha of forests built and more than two million ha of grass planted. Since the 1970s the silt which flowed into the yellow river has been cut down by 250 million tons annually.

Thanks to the beneficial results of the water conservancy works, over 80 percent of the farmers in the 132 counties here have been relieved of poverty, and some have already become rich, he added.

The efforts for greenery on the loess plateau have attracted world attention. The World Food Program provided 10 million u.s. dollars worth of free grain aid for Ansai county in Yan'an prefecture to harness its Xingzhihe valley.

Meanwhile, the World Bank has offered to provide a loan of 160 million U.S. dollars for China to carry out more water

conservancy projects on the loess plateau, and it has sent experts to investigate and evaluate the water conservancy conditions on the plateau. They expressed satisfaction with the results achieved so far.

For hundreds of years the Chinese people have dreamed that one day the Yellow River will become clear, and now the dream still exists, and has become more practical. The source of silt to the river will be stopped when the whole plateau is covered with green—though it might be a few hundred years from now.

Editorial Views Outcome of Earth Summit

HK1806053492 Beijing RENMIN RIBAO OVERSEAS EDITION in Chinese 18 Jun 92 p 1

[Editorial: "Grand Conference in History of Human Environment and Development"]

[Text] The much heralded UN Conference on Environment and Development took place in Rio de Janeiro, Brazil, from 3 to 14 June with a head of state summit held from the 12th to the 13th. Attending the conference were delegations from more than 170 UN member states, 102 heads of state and government, and representatives from UN agencies and other international organizations. Two landmark documents, the "Rio Declaration" and "Agenda 21," as well as other statements of principle on the forest issue were adopted at the conference, while two treaties on climatic change and biodiversity were also signed. This was the biggest, highest-ranking, most well-attended, most well-prepared, and most profoundly influential international conference to be held since the founding of the UN and was a grand gathering in the history of the environment and human development.

The conference opened with the backdrop of a fast deteriorating global environment as well as a very alarming economic development problem. A heightened awareness of the environment as well as the increasing acceptance by people of the intrinsic link between environmental protection and economic development could be seen at the conference. In proposing the establishment of "a new global partnership," both the "Rio Declaration" and "Agenda 21" laid down the guiding principles and action programs defining international cooperation in the domain of environment and development as well as promoting North-South dialogue and South-South cooperation. It was a positive exploration into the attempt to establish a new international order.

The developing countries played a leading role at the conference to demonstrated fully that they are an essential as well as increasingly important force in the world today. Thanks to their driving force, the long suspended North-South dialogue was given a new impetus. In the course of preparing for the conference and examining the various issues, the developing countries held constructive dialogues and consultations with all parties, presented a series of rational proposals, and unequivocally upheld national sovereign rights by defeating attempts by certain countries to intervene in the domestic affairs of other countries under the pretext of protecting the earth's environment. Through their efforts, the conference agreed to incorporate into its

documents major principles spelling out the developed countries' responsibility for the deterioration of the global environment as well as the need for them to provide "new and additional funding" and to transfer environmentally safe technology under favorable conditions. In preparing for the conference, the developing countries coordinated with one another closely, acted in unison, and made a positive contribution to this conference by holding a series of meetings to draft a declaration which reflected their rational demands. The Group of 77 also played a unique role in safeguarding the interests of the developing countries.

The Chinese Government attached great importance to this conference, with Premier Li Peng attending the conference and delivering an important speech. It was yet another major diplomatic operation by China. In line with the objectives of safeguarding peace, promoting growth, and pushing for the establishment of a fair and just new international order, and also in view of the long term interest of mankind's future generations, China explicitly outlined a five-point proposal designed to strengthen international cooperation in the domain of environment and development, namely that economic development should go hand in hand with environmental protection; that environmental protection is the common responsibility of all mankind but the developed countries should assume a bigger share of responsibility; that strengthening international cooperation should be founded on respect for national sovereign rights; that environmental protection and development cannot be separated from world peace and stability; and that the realistic and practical interests of all countries as well as the long term interests of the world should be taken into consideration in handling environmental issues. These correct proposals raised by the Chinese Government received much attention at the conference and elicited a widespread and favorable response from the international community. Premier Li Peng also signed the two conventions on climatic change and biodiversity on behalf of the Chinese Government. This fully illustrates the great importance attached by the Chinese Government to the international cause of the environment and development as well as its sense of responsibility on the issue.

At the head of state summit, Premier Li Peng held meetings and talks with leaders from more than 20 countries. Together, they discussed the principal programs related to human survival and development. They also exchanged profound views and reached broad consensus on major international issues of common concern and on the subject of promoting bilateral ties. All these were beneficial to the launching of cooperation in the domain of the environment and development as well as other international affairs and also strengthened the development of bilateral relations between China and other countries concerned.

On the way to and from Rio de Janeiro, Premier Li Peng made short stopovers in and conducted friendly visits to Fiji and Finland where he received a warm welcome and hospitable reception from the governments and peoples of the two countries. He also held useful talks with the leaders of these two countries, thereby promoting understanding, broadening consensus, and boosting cooperation.

While the Rio Conference represented a gratifying stride in the development path of mankind, the adoption and signing of the conference documents is not the final objective; the most important thing is implementation. All kinds of problems and obstacles will be encountered in the process of implementation. It is thus necessary for all sides to fulfill their obligations completely. In view of the common interest in protecting mankind's environment and in line with the demands of the conference, the developed countries should supply the capital and technology needed for global cooperation on the environment and development. For the developing countries faced with the heavy dual tasks of economic development and environmental protection, they should step up South-South cooperation and promote North-South dialogue in addition to their own continuing efforts based on the realities in their respective countries.

In the process of developing its economy, China pays great attention to environmental protection and has defined environmental protection and family planning as two principal state policies. To this end, it has exerted relentless efforts and achieved definite results. However, it should be clearly acknowledged that as a developing country with a big population and a vast span of land, China continues to face a grim challenge in terms of environmental protection and thus shoulders very heavy responsibilities. The positive results obtained at this conference will certainly bolster further China's endeavors in the environment and development. We should deepen reform and expand opening up, and with simultaneous efforts to elevate the economy to a new stage, pay realistic attention to protecting the ecology and the environment by integrating prevailing and long term interests as well as departmental and overall interests. We should exert further efforts to realize the simultaneous planning, implementation, and development of economic construction, urban and rural construction, and environmental construction; realize a strategic guideline which integrates economic, social, and environmental benefits; and strive to control population and reduce the pressure exerted by population growth on the environment. We should continue to carry out the three major policies which emphasize prevention, treatment by whoever is responsible for pollution, and stronger management of the environment. We should further bolster the building of a legal system related to environmental protection and give better play to the management and supervisory functions of existing environmental protection organizations. We should promote and popularize further effective and excellent experiences which are conducive to both environmental protection and economic development around the country, such as afforestation of the plains, the three northern shelter-forests, and ecological agriculture. We should carry out extensive education on environmental protection as well as research on its related science and technology so as to lift the entire nation's awareness of the environment to a new level. We should also launch extensive international cooperation based on the principle of mutual respect and mutual benefits, and unconditionally spread among developing countries the biodiversity-related technology developed and created by our country's peasants, scientists, and technicians. Protection of the environment is a strategic responsibility which is linked to

the survival and development of the entire nation. Hence, people of all nationalities in China should act positively and struggle valiantly to build our country into a beautiful homeland which is prosperous, has an excellent environment, and is capable of supporting the sustained growth of future generations to come.

PRC Rejection of Nuclear Power Station in Tibet Disclosed

HK0906095692 Hong Kong WEN WEI PO in Chinese
2 Jun 92 p 2

[By staff reporter Chen Chien-ping (7115 1696 1627): "To Keep Soil Pure, No Nuclear Power Station To Be Built in Tibet"]

[Text] Beijing, 1 Jun—An authoritative person disclosed here today that the central authorities have long decided to protect Tibet as a pure land without any nuclear pollution. Therefore, since the founding of the PRC, the relevant Chinese department has absolutely not buried nuclear waste in the Tibet region and has not even approved a proposal of the Tibet Autonomous Regional Government for building a nuclear power station in Tibet.

This authoritative person emphatically pointed out: Based on the above fact, the assertion spread abroad by the Dalai Lama on what he called nuclear pollution in Tibet is a purely fabricated rumor.

He told this reporter: In the mid-1980's, the Tibet Autonomous Regional Government proposed building a small nuclear power station in Lhasa. Because Lhasa's geographical conditions, weather, and environment for building a nuclear power station are good, it is an ideal site suitable for building a nuclear power station. When making the above proposal, the Tibet Autonomous Regional Government raised a detailed suggestion demanding that the power of the nuclear power station should be equivalent to a nuclear submarine's.

The relevant central department seriously examined and discussed Tibet's proposal. The Ministry of Nuclear Industry approved it and Tibet's religious personalities, including Ngapoi Ngawang Jigme and others, agreed. But subsequently, when this project was submitted to the Chinese International Engineering Consultant Corporation (Editor's note: All major projects in China must be examined and approved by this corporation), the corporation raised the following opinions to the central authorities after serious examination: The reasons and conditions for building a small nuclear power station in Lhasa are correct, but we hope that the central authorities will consider that Tibet is a region without any nuclear pollution. Therefore, no nuclear power station should be built here. The central authorities' decision was this: To protect this pure land from nuclear pollution, not a tiny trace of nuclear pollution should be allowed to exist in this region, and the construction of a nuclear power station in Tibet is not approved.

This person said: After the central authorities made this decision, they allocated a special fund for the construction of a hydropower station to solve electric power supply in the

Lhasa area; a huge fund was invested to cut through mountains and dig tunnels to divert water for electricity generation. The investment was twice that for the same scale of a nuclear power station. He added: The central authorities' attitude and methods to handle the construction of a nuclear power station in Lhasa fully reflect China's concern for controlling nuclear pollution and also powerfully prove that there is no nuclear pollution in Tibet.

Tibet Formulates Decrees To Protect Environment

OW0706130792 Beijing XINHUA in English 1232 GMT
7 Jun 92

[Text] Lhasa, June 7 (XINHUA)—The Standing Committee of the Tibet Autonomous Regional People's Congress has approved a full set of regulations for environmental protection.

Chen Xianshun, director of the regional Construction and Environmental Protection Bureau, said the regulations provide legal means to protect and improve the local environment and ecological system, control pollution and ensure the people's health.

The regulations cover protection of forest, grassland, water resources and wildlife, as well as mining, construction and discharge of pollutants.

In the field of wildlife protection alone, Tibet has worked out 20 sets of regulations and rules, according to the official.

At the same time, the region has set up a number of bodies for enforcement of the decrees.

Tibet's Ecological Degradation Seen as 'Asian Issue'

HK0906042992 Hong Kong SOUTH CHINA MORNING POST in English 9 June 92 p 21

[By Yojana Sharma]

[Text] Although China brooks no criticism of its policies in Tibet, insisting that Tibetan affairs are an internal matter, Asian countries are beginning to take note of the ecological degradation of the fragile Tibetan plateau which is starting to affect the environment of several countries whose rivers rise in Tibet.

"The degradation of Tibet is not just a Tibetan issue, it has become an Asian issue," said Sanjeev Prakash of the Indian-based environmental group Eco-Tibet, speaking on the margins of the Earth Summit in Rio.

To coincide with the summit, the Office of the Dalai Lama last week released in Rio a major 140-page report entitled "Tibet Environment and Development Issues 1992".

Reliable information from the area and particularly about environmental degradation has been hard to come by. However, the Tibetan Government in Exile has been able to compile the report with help from Tibetans inside the country, those who fled, foreign visitors and official Chinese sources.

It is the most comprehensive document on the environment ever to emerge from Tibet and is a searing indictment of Chinese exploitation of the area.

According to Tempa Tsering of the Dalai Lama's Office, irretrievable environmental degradation has been caused by the presence of 500,000 Chinese troops, of more than seven million Chinese settlers since 1949, and by China's unsustainable exploitation of Tibet's timber and mineral wealth for its own economic purposes.

The deforestation of Tibet in particular has major implications for other Asian countries.

More than 40 percent of Tibet's forests have been cut since 1949. New roads to penetrate remoter parts of the country have increased the rate of felling. "In the Kongpo area of U-Tsang alone, more than 20,000 Chinese soldiers and Tibetan prisoners are involved in tree felling and transport," says the report.

Deforestation from logging and environmental degradation caused by farming methods used by Chinese settlers unsuited to Tibetan conditions have important ramifications.

Some 90 percent of Tibet's river runoffs end up in the major rivers of India, China, Pakistan, Nepal, Bangladesh and Burma and Southeast Asia.

The Yellow River and Yangtze in China, the Indus in Pakistan and the Brahmaputra in India and Bangladesh have become among the most heavily silted in the world due to environmental degradation in Tibet.

Flooding from the Brahmaputra, for example, which receives a significant share of its waters from Tibet, formed over a third of India's total flood-affected area in the late 1980s.

A major problem is that ecological interference at Tibet's high altitudes tends to be irreversible, says Prakash. Regeneration of plant life is difficult because seedling formation can be slow in low temperatures. Thus the degradation of Tibet is serious and is leading to desertification in the eastern parts of the plateau.

The degradation of the plateau has other important global environmental implications as the area influences atmospheric circulation and jet-stream wind patterns over Asia.

Scientists believe it could affect monsoon rain patterns over India on which millions depend for their livelihood.

Meanwhile with seven out of 15 key minerals due to run out in China within this decade and major non-ferrous metals virtually exhausted on the mainland, the rate of mineral extraction in Tibet is rapidly increasing beyond sustainable levels.

Tibet has proven deposits of 126 minerals with a significant share of world reserves in lithium, Chromite, copper, borax and iron.

"The Chinese policy of unrestrained exploitation of Tibetan resources, supported by a road network that is intended in part to link up mining areas with Chinese industrial zones and markets to the East, have laid the foundation for large-scale mining projects," says the report.

Researchers believe that the environmental damage caused by Chinese mining operations in Tibet mirrors that in China where few environmental safeguards exist.

Erosion could be a serious problem where roads and mining have cut into fragile slopes.

Deposits of coal estimated at more than 250 million tons are also being mined extensively across Tibet, including remote areas now connected by roads in West Tibet, such as menshi Colliery in Ngari and Shigatse.

The distribution and use of coal for domestic and industrial purposes is adding considerably to atmospheric pollution, particularly in Eastern Tibet.

The fear is that Lhasa may soon see urban pollution levels as high as those in Chinese cities which top world league tables, although Tibetans have never been traditional users of coal or fuel.

The report also points to other dangers. "The disposal of nuclear and other toxic waste in hazard-ridden surface sites with minimal safety measures, is contaminating parts of the Tibetan Plateau," it says.

"Tibetans from Amdo have reported extensive and inexplicable pollution of land and water, widespread deaths from mysterious causes after fever, vomiting and dysentery and deformed human and animal births."

Another issue is the impact of Chinese chemical warfare experiments in Tibet, openly reported in the Chinese press. However, no mention is made of their impact on vegetation, human life and wildlife.

In 1991, the U.S. environmental group Greenpeace revealed plans to ship toxic municipal sludge from the U.S. to China to use as "fertiliser" in Tibet. Part of an official Chinese policy is to encourage rich countries to dump dangerous wastes in Tibet in exchange for foreign currency.

Evidence also exists that Tibetan farmers were forced to use toxic fertilisers by the Chinese authorities in order to increase crop yields to support the increased influx of Chinese settlers.

Perhaps to ward off criticism of its policies in Tibet, China announced "substantial" environmental aid to the region just weeks before the Earth Summit.

Said Tempa Tsering: "If there is any kind of economic project which would help the Tibetan people, we would welcome it. But from our experience these projects do not help us. What actually happens is that it assists the settlement of even more Chinese, which is worse, not better for the ecology of Tibet."

State Supports Greening of Tibet

HK1106091592 Beijing CHINA DAILY
in English 11 Jun 92 p 3

[By staff reporter Wang Rong: "Greening in Tibet Has State Support"]

[Text] Lhasa—As part of the State's efforts to improve Tibet's ecology, trees now cover nearly 4,667 hectares of once bare land along the Yarlung Zangbo River and its two tributaries, the Nyang and Lhasa rivers.

New Nurseries cover about 250 hectares and provide plants for afforestation in the coming years, said Wang Zhongyuan, a project official based in Lhasa.

Started in 1990, the "One River, Two Tributaries Project" was designed primarily to improve the environment of the 167,500 hectares of land, transforming it into Tibet's major base for agriculture, animal husbandry, vegetables and light industries.

The project encompasses forestry, irrigation, water conservation, agriculture, energy, soil improvement and transportation.

It covers three prefectures through which the rivers run—Lhasa, Shannan and Xigaze. These areas are mostly over 3,500 meters above sea level, dry, lack oxygen and have frequent gales that blow sand.

Afforestation and building plant nurseries are the project's financial priorities, Wang said.

About 14 percent of the total 70 million yuan (\$12 million) investment in the whole package will go this year to tree planting and building nurseries, he said.

The goal for this year—about some 2,900 hectares of afforestation—was already accomplished this spring. The planned 160 hectares of nurseries have been built.

"We are going to keep planting trees in autumn, which will overfulfill our goal," Wang said.

Autumn planting will mostly be done in Lhasa, because the weather in Shannan and Xigaze will not be suitable, he added.

Last year, planting trees and building nurseries cost 16 percent of the year's investment. With these funds, about 1,667 hectares of trees were planted and 67 hectares of nurseries built.

It was planned that 66,000 hectares of the land should be afforested during the 10 years.

"Considering all aspects including labour force, material supply, funds and the present speed, we believe there's no problem to accomplish 60 percent of the plan," Wang said.

Depending on the different conditions of land and soil and water sources, the cost of afforesting per mu (0.067 hectare) range from 160 yuan (\$29) to 270 yuan (\$49).

Next year, the work force must increase by 20 percent to fulfill the target, Wang said. And in light of the economic benefits of afforestation, more valuable trees will be planted, he said.

Among other tasks, experts are planning to set up three desert prevention experimental areas—Gongkar Airport, Gyangdang County of Xigaze, and Qushui County of Lhasa.

Strong winds and flying sand have prevented 50 take-offs and landings at the Gongkar Airport annually since 1988, resulting in losses of 3 million yuan (\$545,000).

Tibet Nature Reserve Becomes 'Green Paradise'

OW1106062692 Beijing XINHUA in English 0614 GMT
17 Jun 92

[Text] Lhasa, June 17 (XINHUA)—The nature reserve established two years ago in the suburbs of Lhasa, capital of the Tibet Autonomous Region, has become a green paradise on the "roof of the world."

Located more than 30 kilometers away from Lhasa, the nature reserve in Dangdong village is densely dotted with ancient trees, bushes and flowers.

Among the poplar, walnut, apple and peach trees, streams are twisting through valleys while all kinds of birds sing songs.

According to Cangmujue, Dangdong village representative of the regional people's congress, the natural environment in the village was seriously damaged in the past years and many trees were cut down, birds and animals disappeared and streams dried up.

"When I became a representative of the regional people's congress," Cangmujue said, "the villagers asked me to propose the establishment of a nature reserve here."

The regional government approved her proposal two years ago and the village has since turned to being green again with the villagers' efforts in environmental protection.

Cangmujue said that now most of the wild animals have returned here.

REGIONAL AFFAIRS

Japan, South Korea Agree To Conclude Environment Treaty

OW1206132392 Tokyo KYODO in English
1300 GMT 12 Jun 92

[Text] Tokyo, June 12 (KYODO)—Japan and South Korea agreed in two days of talks in Tokyo Friday to conclude an environmental protection treaty as soon as possible, but were unable to finalize an "action plan" to balance bilateral trade, Foreign Ministry officials said.

The officials said the two sides are now negotiating on a draft of the environment protection treaty, which may be concluded by the end of the month or in July.

The agreement came at working-level talks aimed mainly at redressing Japan's consistent trade surplus with South Korea, which stood at 8.7 billion dollars last year, and promoting the transfer of Japanese industrial technology.

They said the two sides were unable to finalize their drawing up of an "action plan" which spells out concrete measures to correct the bilateral trade imbalance. Prime Minister Kiichi Miyazawa made the commitment to such a plan, when he visited Seoul in January.

Negotiators are to meet again once or twice this month in an attempt to reach agreement on the plan before July, in keeping with the date originally proposed by Miyazawa and South Korean President No Tae-u.

The officials said there was some progress but no firm meeting of minds on South Korea's call for setting up a 200 million dollar industrial and science technology foundation.

South Korea said it would be flexible on the proposed amount of mutual funding for the foundation, with Japan saying that its initial funding would come from the private sector and later the government on specific projects once the foundation is created.

Seoul said the foundation could support joint research in industrial technology and expedite technology transfers to allow South Korea to move away from its current dependence on Japanese imports of semiconductor and machinery technology.

The officials said that in addition to the agreement on an environmental protection treaty, an accord was also reached on cooperation in five specific fields of environmental technology.

They said Japan pledged to accept 20 South Korean trainees this year to take courses here related to environmental protection at the Japan International Cooperation Agency.

The two sides also agreed to prepare for the first meeting of a proposed bilateral forum of business leaders.

Officials said the South Korean side called for Japan to halve its import tariffs on South Korean-made textile, footwear and leather products. It also wants to remove quarantine and other nontariff barriers.

The Japanese response was lukewarm. The officials told the South Koreans that the issue should be discussed in the forum of the Uruguay Round of multilateral trade negotiations.

Japan called for South Koreans to let Japanese trading houses engage directly in trading in the country, as now they can only act as mediators between buyers and sellers, taking commissions off those transactions.

They said the South Koreans indicated they would open up the export field to Japanese trading houses, but only on certain conditions that remain to be worked out by the two sides.

The officials said Seoul called for South Korean construction firms to be given the same opportunities as those accorded U.S. firms in participating in public works projects in Japan.

The Japanese response was that the matter should be discussed in the Uruguay Round talks on government procurement. The South Koreans were also told that while the Japanese construction market is open, South Korea's is very closed.

The Japanese side called on South Korea to improve its investment climate in South Korea and technology transfer environment, particularly by reducing red tape.

The Japanese also demanded fair treatment of Japanese patents, especially those for pharmaceuticals, considering that Seoul gives preferential treatment to those of the United States and the European Community (EC).

The two countries established the working-level forum, called the Japan-South Korea Committee on Trade, under an agreement in November 1990. The group met in June 1991 and again last April.

HONG KONG

China's Attitude on Environment Compared to Human Rights Stand

HK1206064492 Hong Kong THE STANDARD in English
12 Jun 92 p D-5

[By Stanley Leung]

[Text] China apparently regards environmental protection as a "luxury" which should not threaten the basic survival of the nation.

The attitude of China towards environmental issues is quite different from that of Western and developed countries which are enjoying a high degree of industrialisation and high income per capita.

China, which has emerged as the leader of the developing countries, takes a cautious view on the question of environment.

Apparently China attaches more importance to economic and industrial development. Environmental problems caused by economic and social development appear to be secondary.

To some extent, China's attitude towards the environment is similar to the case of human rights protection. Without "survival", China finds it difficult to give full consideration to human rights.

China maintains that environmental issues can hardly be separated from principles governing world politics such as national sovereignty and territorial integrity, mutual non-aggression and non-interference in each other's internal affairs.

China's stance on the relationship between "development and environment" was explained by Mr. Song Jian, head of the Chinese delegation who delivered a speech earlier this week at the current plenary meeting of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.

To achieve its purpose, the preparatory committee for the conference has called for the establishment of a "new global partnership" and has written it into the draft "Rio Declaration on Environment and Development".

Among other things, Mr. Song said that countries have the right to exploit their own natural resources according to their own needs, without causing damage to other nations.

"Any attempt to impose certain political and economic models on other countries or to attach unreasonable conditions to co-operation will undermine the basis of this partnership," he said.

Mr. Song, State Councillor and Minister in charge of the State Science and Technology Commission, said China holds that a "new global partnership" should be established on a firm and solid basis fully reflecting the common understanding of the international community on environment and sustainable development.

He said the new partnership should be aimed at enhanced international co-operation in the preservation, protection and restoration of the global ecosystem as well as in economic development.

"Without steady economic development, it is impossible to meet the people's basic needs in life, let alone protect the ecosystem and environment." He said the new partnership must cover both the environment and development and be designed to properly handle, in particular, problems relating to trade, debt and funds and to improve the international economic environment.

Mr. Song said that as countries are in different stages of economic and social development, they are entitled to choose their own ways of economic development and environmental protection which best suit their own national conditions.

He said the new partnership must also be fair and just and should be able to handle properly problems of funds and technology transfer.

Without a guarantee of funds and technology transfer, international co-operation could only be a mirage.

Without the effective participation of developing countries, establishment of such a "new global partnership" is impossible, Mr. Song said.

He said the development modality, in particular the production and consumption pattern that has prevailed since the Industrial Revolution, can not continue.

INDONESIA

Agreement Signed on Biodiversity Conservation Project

BK1806120992 Jakarta ANTARA in English
1030 GMT 18 Jun 92

[Text] Jakarta, June 18 (OANA-ANTARA)—The Government of Indonesia, the United Nations Development Program (UNDP), and the World Bank Thursday finalised a joint agreement on a project to conserve Indonesia's rich biodiversity.

The agreement was signed by Mustopadijaya of Bappenas (National Development Planning Board), UNDP Resident Representative C. Jan Kamp, and the acting director for the East Asia and Pacific region of the World Bank, a statement from UNDP said.

The preparation phase of the biodiversity conservation project for Indonesia will receive a grant of U.S. \$1.56 million from the global environment facility (GEF) which is being coordinated by the World Bank, UNDP, and the United Nations Environment Program.

The first phase involves a pre-investment feasibility study to develop a new approach to biodiversity conservation in respect of the Kerinci Seblat National Park on the island of Sumatera which harbours endangered animals and is home to the world's largest flower, the Rafflesia, and the world's tallest flower, the Phalluslily.

The integrated conservation and development project (ICDP) aims to conserve Kerinci Seblat's biodiversity through a comprehensive management plan while maintaining the area's economic and social development potential and ensuring a sustainable livelihood for the local people.

To implement this and other biodiversity activities, GEF is expected to provide an additional U.S. \$12 million with other donors being encouraged to cooperate.

The aim is to provide people who live in the park with sources of income such as small and medium-scale enterprises without upsetting the ecological balance of the protected area.

The ICDP approach for Kerinci Seblat is something of a litmus test not only for other parks in Indonesia but also worldwide.

About 100,000 people living in and around the park are expected to participate in the project activities.

The people's help will also be sought to mark the park's boundaries and manage buffer zones where a massive greening program is needed to stabilize slopes and stop erosion.

The help of non-governmental organisations will also be enlisted in project design, assessment, and evaluation as well as to rally community support and develop a conservation education program to communicate project objectives to villagers.

People may also be trained as park guides and park patrolers to support ecotourism.

A systematic resource base for biological diversity will be developed at the Bogor Herbarium and Bogor Zoological Museum which house the major Indonesian flora and fauna reference collections.

People's awareness of the need to help conserve Indonesia's biodiversity will also be promoted.

Suharto Suggests Nonaligned Movement Discuss Earth Summit

BK1906065592 Jakarta Radio Republik Indonesia Network in Indonesian (000) GMT 18 Jun 92

[Station commentary]

[Text] President Suharto believes that the results of the Earth Summit in Rio de Janeiro can be used as topics of discussion at the Nonaligned Movement summit in Jakarta in September. The head of state stressed that the results of the Earth Summit and the unity of nonaligned countries as developing countries will be very important in continuing their national development programs. The president made these remarks to reporters during his flight back to Jakarta from Rio.

If we look back at the objectives of establishing the Non-aligned Movement in 1991 [as heard], it is clearly mentioned that the nonaligned countries wish to see the establishment of a new world based on freedom, equality, justice, peace, and progress. These objectives are still relevant to the present situation even though the Cold War between the Eastern and Western blocs appears to have ended. The end of the Cold War has brought about not only new opportunities, but also new problems, which may create dangers to the nonaligned countries, including foreign debts and economic crisis. For the past five years, the price of commodities produced by developing countries have sharply dropped and several African countries have lost the bulk of their export revenues.

Therefore, it is obvious that economic cooperation among developing countries is badly needed in the efforts to provide substance to these countries' independence from colonialism because even though independence is already gained, it will be meaningless if people still live in poverty, ignorance, and uncertainty. National development itself is inseparable from environment issues because development which neglects environment will not benefit people's lives in

the long run. Ideally speaking, development and environment preservation should go together in a harmonious way so the younger generation does not have to inherit the heavy environmental burden.

The nonaligned principles call for support on the struggle against imperialism, colonialism, apartheid, and all kinds of foreign aggression as well as freedom to determine a country's national and foreign policy. All these principles and objectives are indeed closely related to environment preservation because the term environment incorporates everything and anything that exist outside a person, including what can be found underground and in the space. Therefore, it is logical to say that the results of the Earth Summit should be used as topics of discussion for the coming Nonaligned Movement summit because what has been achieved in Rio is a common effort to save mankind and the world from destruction.

Forestry Minister Comments on Biodiversity Agreement

BK1706102992 Jakarta ANTARA in English 0924 GMT 17 Jun 92

[Text] Jakarta, June 17 (OANA-ANTARA)—Minister of Forestry Hasrul Harahap said here on Wednesday that the endorsement of the convention on biodiversity by the Earth Summit in Rio de Janeiro over the weekend strengthens Indonesia's determination to continue preserving the diversity of its biospecies.

"We made preservation efforts such as launching of a reforestation, greening and timber estate program even before the adoption of the convention in Brazil," the minister said when installing 221 graduates of a Senior Forestry High School (SKMA) here on Wednesday.

The minister made the remarks in connection with the signing of the convention by a number of countries, including Indonesia, during the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro from June 3 to 14.

Opened by UN Secretary General Butrus Butrus Ghali, the UNCED conference was the biggest of its kind in world history and was attended by 178 UN member countries and a number of international agencies.

The financial source for the preservation of biodiversity in various countries was a sensitive issue during the summit.

"The awareness of the participating countries of the need to protect the environment was increasing but they pay more attention to their own interests when they discuss funding sources," the minister added.

The United States offered only 159 million US dollars for reforestation efforts which is relatively small compared with the 300 million US dollars made available by Indonesia to fund its own reforestation program.

Issues discussed during the earth summit will also be discussed in the upcoming Non-Aligned Movement summit in Jakarta as proof of the third world's concern over the environment, the minister said.

JAPAN

MITI Draws Up Earth Renewal Program

OW 120861160 Tokyo KYODO in English
1211 GMT 12 Jun 92

[Text] Tokyo, June 9 (KYODO)—The Ministry of International Trade and Industry has drawn up an earth renewal program calling for a worldwide network to monitor global warming and the use of new energy sources less harmful to the environment, ministry officials said Tuesday.

The officials said the program, if implemented, would reduce the volume of carbon dioxide discharged by advanced nations into the atmosphere in the year 2010 by 10 percent from the present level.

The plan, named the Earth Reconstruction Program, calls for the establishment of a worldwide network to monitor emissions of carbon dioxide and other gases believed responsible for the greenhouse effect or global warming, the officials said.

It also proposes international cooperation for the development and use of new pollution-free energy sources such as hydrogen, they said.

Japan will also improve the quality of its official development assistance (ODA) to contribute to the preservation of environment, particularly in Asia, the officials said.

They said the ministry will seek appropriations for the program in a budget for fiscal 1993.

The officials said the program was originally proposed by Japan at the summit of seven industrialized nations held in Houston, Texas, in July 1990.

The global network to monitor the greenhouse effect would be completed by 2000 to analyze data transmitted from an earth observation satellite to be launched in fiscal 1995, the officials said.

As for the development and use of new energy sources, the program calls for an international study on technological aspects of disposal or storage of carbon dioxide underground or at the deep sea, the officials said.

The New Energy and Industrial Technology Development Organization (NEED) affiliated with the ministry will provide funds for the project, they said.

Under the program, Japan will transfer technology to Asian countries to build desulfurization equipment at electric power plants and to promote the use of new energy sources, including solar power.

The program aims to curtail emissions of sulfuric elements in developing countries by about 70 percent and the ratio of sulfur contamination in their gross national product by about 70 percent, the officials said.

The program also calls for a swap of the external debt burden in developing nations for nature preservation, forestation of the deserts, and protection of endangered wildlife and plants, they said.

New Construction Process Reduces Tropical Timber Usage

OW 12086075692 Tokyo KYODO in English
0724 GMT 12 Jun 92

[Text] Tokyo, June 12 (KYODO)—Obayashi Corp. announced Friday it has developed a new construction process that could reduce consumption of tropical timber substantially.

The Osaka-based construction firm said the process calls for replacement of wooden frames used in pouring concrete with concrete sheets of about five centimeters thickness.

The company said the new method is aimed principally at reducing consumption of rain-forest resources, such as lauan and veneer wood, and easing criticism of Japan for destroying the environment.

The new process will help reduce the use of tropical timber to one-thirtieth the present level, the company said.

An experimental construction of a two-story structure showed that the new method helped reduce the volume of rain-forest wood used by 97 percent, saving about 111 cubic meters of timber, the company said.

The time required for completion of a building could be shortened by 10 to 20 percent using the new method, it said.

The new process, however, boosts production costs by about 10 percent and the major problem is how to overcome the cost problem, Obayashi said.

Japan imports 19 million cubic meters of tropical wood annually, of which about two million cubic meters are used to make frames for setting concrete, according to statistics of the construction industry.

Government Pledges Environment Aid to Mexico, Brazil

OW 1406014092 Tokyo KYODO in English
0121 GMT 14 Jun 92

[Text] Tokyo, June 14 (KYODO)—Japan has pledged some 11.4 billion yen in environmental assistance loans to Mexico and Brazil, the Foreign Ministry announced Sunday.

Officials said the aid represents the first phase of Japan's goal announced at the Earth Summit in Rio de Janeiro expand its bilateral and multilateral Official Development Assistance (ODA) for environmental protection.

Prime Minister Kuchi Miyazawa pledged in a message prepared for distribution at the summit that Japan would commit around 900 billion to 1 trillion yen (7 to 7.7 billion dollars) during a five-year period that began in April.

Officials said Japanese diplomats at the Earth Summit on Saturday handed a letter from Miyazawa to Mexican President Carlos Salinas de Gortari pledging 1.4 billion yen in ODA loans to his country for a reforestation project.

Another letter from Miyazawa was given to Brazilian President Fernando Collor de Mello with a pledge of 9.9 billion yen in ODA loans for water cleaning projects.

Government To Tighten Controls on Chemical Exports

OW1506120092 Tokyo KYODO in English
1143 GMT 15 Jun 92

[Text] Tokyo, June 15 (KYODO)—The government announced Monday it will tighten export controls on 59 chemicals by requiring exporters to obtain prior government approval to ship such chemicals abroad.

The measures aim to prevent the chemicals from being used for producing drugs or causing environmental pollution, the Ministry of International Trade and Industry said.

It said the tighter export controls will take effect on July 1.

The 59 chemicals comprise 37 chemicals designated by the United Nations as harmful to the environment, such as polychlorinated biphenyl, or PCB, and dichloro-diphenyl-trichloro-ethane, or DDT, and 22 chemicals that can be used to make drugs.

Business Leaders Urge Efforts on Earth Summit Goals

OW1506022492 Tokyo KYODO in English
0158 GMT 15 Jun 92

[Text] Tokyo, June 15 (KYODO)—Japanese business leaders said Monday Japan and other rich nations must work hard to put into action the goals set by the just-concluded Earth Summit.

Gaishi Hiraiwa, chairman of the Federation of Economic Organizations (Keidanren), said the summit marked a first step toward global cooperation on environmental protection and it would be a problem for major countries to realize the goals it set.

The 12-day summit, held in Rio de Janeiro, ended Sunday with the adoption of several pacts, including the Rio Declaration, a nonbinding set of moral and environmental principles, and agenda 21, an action program for carrying out those principles.

Referring to Japan's responsibility in carrying out the agreements, Rokuro Ishikawa, chairman of the Japan Chamber of Commerce and Industry, said, "Japan should make active commitments not only on the financial but also on the technological front."

Takeshi Nagano, president of the Japan Federation of Employers Associations (Nikkeiren), said, "Japan, with the largest trade surplus in the world, bears a heavy responsibility."

He urged for more environment-related overseas assistance by the government and expansion of environmental funds of the World Bank.

The business leaders expressed regret over the absence of Prime Minister Kiichi Miyazawa from the summit. Masaru Hayami, head of the Japan Association of Corporate Executives, said, Miyazawa's absence "left a problem for Japan's future."

They want Miyazawa to underline Japan's cooperative stance on environmental issues at the summit of the group of seven (G-7) industrial nations in Munich in July.

Takeshita Seeks Tax Exemptions for 'Green Charity'

OW1606104192 Tokyo KYODO in English
0959 GMT 16 Jun 92

[Text] Tokyo, June 16 (KYODO)—Former prime minister Noboru Takeshita told industrialists Tuesday he will seek to have tax exemptions introduced this year for charitable donations to environmental causes.

Takeshita at the same time threw cold water on proposals for an environment tax, declaring that such a tax is unlikely to win public backing in the near future.

European countries have been seeking international support for a "carbon tax" aimed at reducing emissions of the key gas contributing to global warming.

In a speech before a business forum on biotechnology, Takeshita urged the private sector to establish foundations to promote environmental research, transfers of pollution control technology to developing countries, and funding of private environmental groups.

Takeshita said he hoped measures could be introduced this year that would enable tax-free donations to such foundations.

Takeshita also voiced support for tax incentives to industries that invest in energy-saving equipment.

Takeshita, a key figure in Japan's effort to raise funds for environmental protection, returned to Japan earlier this month from the Earth Summit in Rio de Janeiro.

MITI To Tighten Animal Import Controls From 1 July

OW1706080592 Tokyo KYODO in English
0744 GMT 17 Jun 92

[Text] Tokyo, June 17 (KYODO)—The Ministry of International Trade and Industry (MITI) will tighten animal import controls effective July 1, ministry officials said Wednesday.

The move is in line with the earlier decision following the eighth meeting of the conference of the parties of the Convention on International Trade in Endangered Species of wild fauna and flora, held in Japan last March, the officials said.

Importers of any creatures covered by the Washington convention will be required to get the ministry's certification prior to shipment under the tightened controls, they said.

The ministry currently applies similar approval requirements to imports of more than 500 species, they said.

From July 1, another 500 species are subject to the ministry's advance certification, among which are parrots, tortoises, and lizards, they said.

To cope with an expected increase in handling, the ministry plans to newly appoint seven to eight persons for the job, as well as to have local bureaus in charge of receiving applications and giving certifications, they said.

By introducing the tighter controls, the ministry expects to expose forged export permits amid an increasing pet boom, they said.

Government Looks to Summer Energy Saving Measures

OW1806150492 Tokyo KYODO in English
1126 GMT 18 Jun 92

[Text] Tokyo, June 18 (KYODO)—The government decided Thursday on ways to save energy during the summer as part of its efforts to reduce burden on the global environment, the Ministry of International Trade and Industry (MITI) said.

The ministry called for the following the officials said.

The temperature of computer rooms should also be kept around 28 centigrade, as long as it does not cause trouble, they said.

Last summer, the ministry requested keeping room temperatures between 26 and 28 c.

Among other measures to save energy were introduction of efficient air conditioners and hot water supply equipment, appropriate use of electricity under the time-by-time electricity fee system, and selection of vehicles with high fuel efficiency, the officials said.

The government also intends to proceed with a study on the pros and cons of a summer daylight savings time system, they said.

Among 24 member nations of the Organization for Economic Cooperation and Development, only Japan and Iceland have yet to introduce the system, the officials said.

Driftnet Fishing To Be Scaled Down Before UN Ban

OW1906123492 Tokyo KYODO in English
1145 GMT 19 Jun 92

[Text] Tokyo, June 19 (KYODO)—Japan will drastically scale down its driftnet fishing before an international ban on large-scale open-sea driftnet fishing goes into effect at the end of this year, the Fisheries Agency said Friday.

The measure is in line with a resolution adopted last December by the U.N. General Assembly calling for a 50 percent reduction in international driftnet catches by June and a complete moratorium by 1993.

The agency said driftnet fishing zones in the north Pacific Ocean will be roughly halved, with the number of eligible driftnet boats lowered at the outset to less than 457 from last year's 525.

The number of such boats will then be reduced gradually to 140 between next month and December, it said.

Japan has the world's largest driftnet fleet, which fishes primarily for squid in the north Pacific. Driftnet fishing has been criticized for trapping and killing all marine life in the nets' path.

Cambodian Refugees, Environment Top Fund Recipient List

OW1906133192 Tokyo KYODO in English
1218 GMT 19 Jun 92

[Text] Tokyo, June 19 (KYODO)—The Ministry of Posts and Telecommunications decided Friday to devote 25 percent of interest from special voluntary deposits to Cambodian refugee programs and efforts to preserve the global environment, ministry officials said.

The voluntary deposit for international aid, launched by the ministry, is a special deposit system in which 20 percent of interest collected is earmarked for citizens' groups tackling such global problems as environmental degradation.

The ministry has raised 2,326.36 million yen for 185 groups and some 250 of their programs. Of the total, one-fourth, or 640 million yen, will go to help Cambodian refugees and support environmental protection activities, a ministry official said.

The fund also includes six economic aid targets for Commonwealth of Independent States.

Money will also be donated to a Buddhist group which has been supporting job training in Cambodia, and a Kyoto group helping to plant trees in India's Deccan Plateau, he added.

SOUTH KOREA

North Delegate Flatly Rejects Offer on DMZ Ecosystem

SK1506002792 Seoul YONHAP in English
2354 GMT 14 Jun 92

[Text] Rio De Janeiro, Brazil, June 14 (YONHAP)—North Korea's chief delegate to the UN Conference on Environment and development declined to react immediately to a South Korean proposal for a joint survey of the ecosystem in the demilitarized zone.

North Korean Vice Premier Kang Hui-won said it would be difficult to make an immediate response to the proposal because it needs an intensive study.

South Korean Prime Minister Chong Won-sik in a keynote speech to the conference Saturday suggested the establishment of the ecosystem in the 258-kilometer long and 4 kilometer-wide DMZ which divides the two Koreas.

In an interview with YONHAP News Agency following the adjournment of the UN Conference, Kang declined to make any comment on Chong's suggestion but indicated that the topic could be taken up at the inter-Korean prime ministers' conference to be held in Pyongyang in September.

But Kim Hyong-u, vice director of the international department of the North Korean Workers' (Communist) Party,

flatly rejected the South Korean proposal. He said the South Korean proposal is not "desirable at the time when South and North Korea should do their best to remove the demilitarized zone itself."

Asked if he tried to help set up diplomatic ties between North Korea and countries in South America, Kim simply replied that he has exchanged views on mutual interest.

Meanwhile, the South Korean prime minister was scheduled to leave Rio De Janeiro Monday morning for Buenos Aires for an official visit to Argentina.

Government To Take Steps To Fulfill Rio Environment Treaties

SK1506085492 Seoul YONHAP in English
0728 GMT 15 Jun 92

[Text] Seoul, June 15 (YONHAP)—The government will work out plans to reduce global warming step by step now that it has signed the treaties on biodiversity and climate change, an Economic Planning Board official said Monday.

The government will conduct a study on carbon dioxide emissions and the use of fossil fuels in South Korea and make all-out efforts to develop substitute energy sources as well as restructuring the steel and cement industries to be energy efficient, he said.

It will consider introducing a carbon tax, which is on the drawing board of the European Community, and will soon start examining the prices of goods whose production brings about carbon dioxide emission and the impact of the introduction, the official said.

Korean environmental standards will be raised to international standards and efforts will be stepped up to develop clean fuels and recycleable energies, including natural gas and atomic power.

Even though the clause that carbon dioxide emissions should be reduced to the level of 1990 by 2000 was deleted in the treaty on climate change, debate over the reduction could be rekindled in the days ahead, the official said.

If such a debate sparks again, he said, the government would try to secure enough time to carry out the reduction for Korea and other developing nations that heavily depend upon fossil fuels.

In connection with the biodiversity treaty, the government has decided to prepare detailed measures for the preservation of Korea's ecological system based on a survey of native flora and fauna.

Senior Officials Meet To Study Impact of Earth Summit

SK1506151392 Seoul YONHAP in English
1242 GMT 15 Jun 92

[Text] Seoul, June 15 (YONHAP)—The government Monday afternoon held a meeting of relevant senior officials to study the effect of the signing of two international environmental treaties on the country's industry.

At the meeting chaired by Deputy Prime Minister Choe Kak-kyu, attendees were briefed on the background leading to the signing of the two treaties at the Earth Summit in Rio de Janeiro contrary to an original policy not to sign them.

The two treaties were the one on the prevention of climate change and another on biodiversity.

The attendees also exchanged opinions broadly on measures the country should take in the future in connection with the signing of the treaties.

The meeting concluded that the immediate impact of the treaties on the domestic industry would be small because of the elimination of the controversial clause calling for the reduction of carbon dioxide emission to the 1990 level by 2000.

Observing, however, international control of environmental matters would be tightened in the days ahead, the meeting decided to take a set of comprehensive measures to better cope with the expected move.

Attending the meeting were, besides Choe, the ministers or vice ministers of foreign affairs, trade and industry, energy and resources and environment, and senior officials from Chongwadae and the office of prime minister.

Government To Build 18 Nuclear Power Plants by 2006

SK1706075592 Seoul YONHAP in English
0710 GMT 17 Jun 92

[Text] Seoul, June 17 (YONHAP)—South Korea will extend the supply of liquefied natural gas (LNG) nationwide and build 18 nuclear power stations by the year 2006, Energy-Resources Minister Chin Nyom said Wednesday.

"The government will effectively deal with the international move to restrict the use of fossil fuels by supplying LNG nationwide and building 18 nuclear power plants from 1995 to 2006," Chin told a breakfast meeting sponsored by the Korea Industrial Standards Association.

He said the government would expand combined heat-power generation facilities, utilizing heat from garbage, and strengthen efforts to develop substitute energy sources.

"Industrial firms should work out steps to enhance energy efficiency and to reduce energy consumption," Chin said.

Korea now has nine nuclear power stations.

Government Considers Environment Attachés at Embassies

SK2206082692 Seoul YONHAP in English
0658 GMT 22 Jun 92

[Text] Seoul, June 22 (YONHAP)—The government is studying on assigning environment attaches to Korean diplomatic missions in Geneva and other major cities around the world in efforts to step up environmental diplomacy, informed sources said Monday.

The sources said the government would also expand the role of an environment ambassador and make it a regular

assignment. It will increase the staffs of the Foreign Ministry's Department of Science and Environment and the Environment Ministry's Department of Earth Environment.

The Korean mission in Geneva may have a director-general-level environment attache this year followed by the missions in New York and Tokyo, the sources said.

They said consultations were under way among the ministries of environment, foreign affairs and government administration.

Environment attaches will gather information about environmental technology and trade restrictions that may follow up the treaties on climate change and biodiversity signed at the recent Earth Summit in Rio de Janeiro, the sources said.

NORTH KOREA

IAEA Finds DPRK Nuclear Safety 'Defective'

SK1506083392 Seoul TONG-A ILBO in Korean
15 Jun 92 p 1

[By reporter Choe Maeng-ho from Vienna]

[Text] It has been found that the design, radiation shielding systems, cranes, protective devices, waste disposal sites, and safety control systems of North Korean nuclear facilities are seriously defective.

Officials concerned at the International Atomic Energy Agency (IAEA) pointed out on 15 June [date as published] that the activities in North Korea by a delegation led by Hans Blix, IAEA director general, and the IAEA's first inspection team and the examination of the video tapes which the North Korean authorities had shot for the IAEA reveal that the North Korean nuclear facilities are 40- to 50-year-old models, that their design is shoddy, that radiation shielding standards are not uniform, and that North Korea's safety standards, which are below the general international standards, are not reliable.

In connection with this, the ROK delegation to the IAEA Board of Governors and the IAEA have decided to present the North Korean nuclear facilities safety issue at a meeting that opened that day.

A correct analysis of the North Korean nuclear facilities is not available. An IAEA official concerned said: "The design of the North Korean nuclear facilities based on what is called *chuche* [self-reliance] is clearly substandard."

In connection with, another IAEA official said: "North Korea's nuclear facilities and equipment were all designed and manufactured at plants near Pyongyang." He also said: "There is no independent supervisory organization nor control committee in North Korea that monitors and supervises the safety of the nuclear facilities. This is worrisome."

North Korea built a five-megawatt experimental nuclear reactor patterned after the graphite reactor built by Great Britain and France in the 1950's. North Korea is now building one 50-megawatt reactor and one 200-megawatt nuclear reactor patterned after the 5-megawatt reactor.

An IAEA official concerned said: "It was found that many of the fuel rods in the 5-megawatt experimental nuclear reactor had been damaged and that the design of this reactor was partially changed after the Chernobyl incident in the former Soviet Union."

This official also stated: "It has been revealed that North Korea's radiation shielding systems in its nuclear reactors is inferior to those of the advanced countries, that the thickness of the nuclear disposal facility is not uniform, and that there are no protective devices when moving large cranes carrying nuclear waste."

At an unofficial briefing on 10 June, Director General Hans Blix revealed: "We notified North Korea of the willingness to cooperate with it in planning effective and commercially viable nuclear reactors and to secure the safety of the nuclear reactors." This indirectly hinted that the IAEA is not satisfied with the safety of North Korea's nuclear reactors.

The ROK delegation participating in the IAEA Board of Governors meeting that will continue through 18 June is planning to urge the IAEA for thorough inspection and is also planning to urge North Korea to sincerely abide by the international agreement and to accept mutual inspection between South and North Korea. This is because regardless of the first on-the-spot inspection by Director General Hans Blix and his party, the misgivings about North Korea's nuclear development have not been eliminated but rather increased.

Regarding the strengthening of safety measures, the IAEA is proposing that reporting on the production and import and export of nuclear weapons and nonnuclear materials must be imposed as a duty. In this connection the IAEA is also proposing that an international agreement on nuclear safety be established to enhance safety.

MALAYSIA

Minister Describes Rio Earth Summit 'Success'

BK1706083292 Kuala Lumpur Voice of Malaysia
in English 0600 GMT 17 Jun 92

[Text] Foreign Minister Datuk Abdullah Badawi has described the recent Earth Summit in Brazil as a success as it got together many world leaders to discuss environmental issues. He said what brought the 150 heads of state or government to the summit was a common awareness of the importance of discussing environmental issues together.

He was speaking at a joint news conference with Science, Technology, and Environment Minister Law Hieng Ding at the Kuala Lumpur International Airport on their return from the summit in Rio de Janeiro. Datuk Abdullah said Malaysia had gained much from the summit as many provisions of the Kuala Lumpur Declaration were incorporated in the Rio Declaration. The Kuala Lumpur Declaration was the outcome of the second ministerial conference of developing countries on environment and development last April in preparation for the Earth Summit in Rio. In

Rio, developing countries were also successful in rejecting the idea for a convention on forests.

Datuk Abdullah commended the good works of Malaysian officials representing the various ministries at the summit. The team spirit was a boon to the country. Representatives from Malaysian nongovernmental organizations at the summit also helped in explaining the state of the environment in the country. Minister Law said Maurice Strong, the Earth Summit secretary general, had told him that the prime minister, Datuk Sri Dr. Mahathir's presence in Rio was of great importance. The Malaysian leader chaired one session of summit talks and Law himself chaired the ministerial level [word indistinct] session. This reflected Malaysia's high international standing.

Minister Discloses Plan To Hold Conference on Forests

BK1906080292 Kuala Lumpur BERNAMA in English
0343 GMT 19 Jun 92

[Text] Kuala Lumpur, June 19 (OANA-BERNAMA)—Malaysia may organise an international conference to discuss follow-up actions to the agreement reached on the forest issue at the Earth Summit in Rio de Janeiro. Primary Industries Minister Dr. Lim Keng Yaik said Thursday.

Dr. Lim said he would suggest to the cabinet that the conference be held "maybe early next year."

Speaking to reporters at the airport on his return from the summit, he said the conference would enable forest experts, nongovernmental organisations, and representatives of the North and South countries to have further discussions on the matter.

"The conference is important to ensure that the agreement reached on the matter at the summit is implemented," he said.

Dr. Lim said he would present a working paper on the matter to the cabinet soon.

He said that if necessary, the conference would push for the North countries to increase their forest areas.

"We must make efforts to get the commitment for financial aid from the North to preserve the tropical forests and ensure a speedy establishment of the commission on sustainable development," he said, adding that otherwise decisions made in Rio would be forgotten.

Dr. Lim said he had a list of 20 countries which had played an active part in pushing for the decision on the forest principles at the summit.

On Malaysia's refusal to sign the Convention on Climatic Changes, he said: "We might change our stance in the future if the North, especially the United States, take steps to reduce pollution in their countries."

TAIWAN

Executive Yuan Lists Plants With 'Serious' Pollution Problems

OW1706151792 Taipei China Broadcasting Corporation
News Network in Mandarin 2300 GMT 16 Jun 92

[From the "Hookup" program]

[Text] The Executive Yuan's Environmental Protection Administration yesterday [16 June] handed a list of 398 plants with serious pollution problems to the Ministry of Economic Affairs' Industry Bureau, urging the bureau to help the plants solve their problems. Otherwise, the plants, which are currently under observation, will be blacklisted, and for punishment they will have to suspend operations.

Chao Shao-kang, director general of the administration, said that in accordance with Premier Hao Po-tsun's instructions, which were made at an Executive Yuan meeting recently, environmental protection organizations, before meting out penalties to factories concerned, should notify the relevant administrative departments where the factories are located. The namelist of the 398 plants is the first concrete response to the premier's instructions.

Chao Shao-kang said that economic growth and environmental protection in Taiwan should supplement each other and that there should be no leaning to either side. The Ministry of Economic Affairs, as an organ in charge of domestic enterprises, has the responsibility to urge plants and factories to protect the environment. The Environmental Protection Administration is in charge of overall environmental protection work throughout the country. Good mutual coordination will help enterprises speed up the improvement of environmental pollution. In particular, if the Industry Bureau ensures that its subordinate units—the pollution control groups of the China Technology Service Society—fulfill their functions well, this will be a great help to enterprises in overcoming technical difficulties.

Regarding the blacklist of the plants compiled by the Environmental Protection Administration, Vice Economic Minister Yang Shih-chien said that the Ministry of Economic Affairs will coordinate with the Environmental Protection Administration to assist enterprises in improving the environment. The ministry, however, will make no comment on whether the move by the Environmental Protection Administration will affect investment willingness and even the value of stocks of some companies.

Taipei Bids for Environmental Technology Center

OW1606091292 Taipei CNA in English
0757 GMT 16 Jun 92

[Text] Taipei, June 16 (CNA)—The government hopes to have the proposed Asian Environmental Protection Technology Development Center of the United States established in Taipei so that Taiwan can fast improve environmental protection. Chao Shao-kang, administrator of the Environmental Protection Administration, who has just returned from Earth Summit in Rio de Janeiro, said if the

dream is realized, Taiwan's technological levels in environmental protection will be upgraded significantly.

THAILAND

Government Counters Charges on Natural Harvest Shrimp Export

BK1506024592 Bangkok BANGKOK POST
in English 15 Jun 92 p 28

[Text] The Fishery Department has released reports of the development of farm-raised shrimp products to counter charges from environmental groups that Thailand mostly exports shrimp from natural harvesting.

Deputy director-general Bangon Saisith's comments were published recently in a shrimp culture newsletter.

The country's farm-raised shrimp industry has developed rapidly and steadily in the last five years, growing to more than 160,000 tons in 1991 compared to only 17,886 tons in 1986. The increase is reflected in a flourishing export industry: 115,714 tons were exported last year, about four times the 1986 figure.

The reports also show that shrimp caught by natural harvest last year accounted for 80,000 tons—down from 102,627 tons in 1986.

"The volume of exports is related to the volume of farm-raised shrimp rather than from natural harvest," the report said.

Thailand has been criticised by many environmental agencies including the American-Earth Institute, which has accused Thai fishermen of catching shrimp with drift-nets and endangering various kinds of sea-turtle.

The Institute has also said that mangroves in eastern and southern Thailand have been destroyed and wants the Northern District of California Court to force trading partners of the USA to use American standard nets, which are more expensive. But the Fishery Department argues that the criticisms are a method of protectionism rather than of conservation.

The Agricultural and Cooperatives Ministry and the Commerce Ministry are working together to resist this kind of criticism. The Californian court expects to investigate the case by June 25, 1992.

The U.S. market is the second largest for Thai frozen shrimp products: it imports about 30,972 tons, 26 percent of the total (121,002 tons in 1991). Last year, exports of shrimp from Thailand captured 18-19 percent of the American market, second to Ecuador which had a 20 percent share.

VIETNAM

Council of Ministers Chairman Urges Implementation of Greening Program

BK1006141192 Hanoi Voice of Vietnam Network
in Vietnamese 1100 GMT 9 Jun 92

[Report by Station correspondent Dinh Khai on a 6 June 1992 conference held in Vinh Phu province to discuss "the

planting of botanical parks and those forests to be used as raw materials for paper pulp"—read by announcer]

[Summary] "The Office of the Council of Ministers, in coordination with the Ministry of Forestry and the Vinh Phu Provincial People's Committee, held a conference at the headquarters of the Vinh Phu Union of Paper Pulp Supply Enterprises on 6 June 1992 to discuss the planting of botanical parks and those forests to be used as raw materials for paper pulp."

Attending were the chairmen and vice-chairmen of the People's Committees of Vinh Phu, Yen Bai, Tuyen Quang, Ha Giang, and Bac Thai provinces; the ministers of finance, forestry, agriculture and food industry, construction, and light industry.

"Council of Ministers Chairman Vo Van Kiet also attended and addressed the conference."

Comrade Tran Xuan Thuy, deputy minister of forestry, briefed the conference on efforts to cover vacant lots and bare hills with greenery and develop the area that has provided raw materials for various paper mills in the Bac Bo midlands over the years.

He said: "Since 1982, localities in the area have planted 160,000 hectares of forests, including 59,000 hectares designed to produce raw materials for paper pulp. They have also planted a total of 345 million scattered trees. Over the past 10 years, the area as a whole has supplied the paper industry with over 1,386,000 cubic meters of timber and 474,000 metric tons of trees of the bamboo family. Since 1987, the Vinh Phu United Paper Mill has ceased to import paper pulp and has instead used locally available raw materials."

In the area, a number of cooperatives and families have received funding from the Vinh Phu United Paper Mill for afforestation under profit-sharing contracts.

Comrade Nguyen Xuan Xuyen, director general of the Vinh Phu United Paper Mill, briefed the conference on afforestation activities in support of the paper mill since 1986.

"Addressing the conference, Council of Ministers Chairman Vo Van Kiet hailed various relevant localities, ministries, and sectors for their efforts to cover vacant lots and bare hills with forests. Over the years, these localities have obtained numerous valuable experiences in covering vacant lots and bare hills with greenery, in preserving and restoring forests, and in arranging settled farming and settled life for ethnic compatriots. Their experiences have helped make various policies of the Council of Ministers more and more practical.

"However, after this conference, localities should continue to draw on experience and to firmly grasp the situation regarding forestry development and the need to cover vacant lots and bare hills with greenery if they are to take steps to make capital investments and personnel arrangements and ensure better management.

"The question of forest preservation should receive appropriate attention. Specific steps should be also taken to deal

with each particular type of forest. It is necessary to continue to step up the task regarding settled farming and settled life. The sooner this task is carried out, the better will be forest preservation, restoration, and development. Satisfactorily carrying out the task regarding settled farming and settled life also amounts to moving those who have earned their living through forest destruction toward planting, caring for, and preserving forests. Localities should continue to promptly study steps, conditions, and experiences needed for resolving the task regarding settled farming and settled life in a manner compatible with their specific situations.

"Covering vacant lots and bare hills with greenery is a major national program. The Council of Ministers has studied and will continue to carefully study policies and measures aimed at ensuring the satisfactory implementation of this program. Meanwhile, localities should strive to develop their own initiatives. They should create appropriate conditions for the laboring people so they can feel safe to hold onto their

land for afforestation and can find for themselves an appropriate direction along which they will plant trees of high economic value in order to gradually improve their living standards.

"Council of Ministers Chairman Vo Van Kiet emphatically said: Of course, localities should pay the greatest attention to doing away with the habit of working just for form's sake and should attach special importance to the practical results of the task regarding settled farming and settled life and of the program to cover vacant lots and bare hills with greenery.

"Finally, the chairman of the Council of Ministers urged various ministries and sectors at the central level to—depending on their functions—closely cooperate with the forestry sector in providing supervisory guidance for various state farms, forestry sites, economic organizations, and family households to ensure the successful implementation of the program for afforestation and the use of vacant lots and bare hills for agricultural and forestry production."

CZECHOSLOVAKIA

Environment Minister Comments on Rio Earth Summit Results

LD1706101792 Prague Stanice Ceskoslovensko Radio Network in Czech 0200 GMT 17 Jun 92

[Text] The five principal Rio de Janeiro documents on the ecology and the world development represent a huge quantity of obligations for the individual countries involved. If observed, they could mean a big step forward for the whole world. Josef Vavrousek, federal minister in charge of the Committee for the Environment, said this last night shortly after his return from Rio de Janeiro.

Vavrousek went on to say that Czechoslovakia signed only three of these documents: Agenda 21 on the Development and Protection of the Environment in the 20th and 21st Centuries, the Rio de Janeiro Summit Declaration, and the Principles of World Forests Protection.

The definitive versions of the remaining two conventions on the protection of nature and on the atmosphere, was presented to Czechoslovakia far too late. In pre-election days it has been impossible to discuss them in a law abiding fashion. This was the only reason why the Czechoslovak delegation has no mandate to sign the agreements.

POLAND

Environmental Damage Done by Russian Army To Be Assessed

PM1106102392 Moscow KRASNAYA ZVEZDA in Russian 10 Jun 92 p 1

[Report by Lieutenant Colonel A. Bugay: "Damage Will Be Calculated"]

[Text] In connection with the start of the final phase of the Northern Group of Forces' withdrawal, W. Paluszinski, Polish deputy chief environmental inspector, has announced that the inspectorate's workers have started checking the installations and bases left behind by the Russian Army. This action, he noted, has two aims—to calculate the environmental damage at all Northern Group of Forces bases in Poland, and to prevent any further losses which could arise during the Russian troop withdrawal. Although the protocol recently signed in Moscow on the former Soviet Army's withdrawal does not envisage any financial claims, W. Paluszinski stressed that the environmental service will be preparing a detailed damage assessment. The inspectors will stay at the military bases until the last Russian soldier has left.

It was explained to me at the Northern Group of Forces Environmental Detachment that these measures will be carried out in conjunction with Russian Army specialists, which will make it possible to make an objective assessment of the environmental damage done to Poland as a result of the presence of Northern Group of Forces units on its territory.

Environment Minister on Earth Summit's 'New Ecological Ethics'

LD1606122392 Warsaw PAP in English 2357 GMT 15 Jun 92

[Text] Warsaw, June 15—Environmental Minister Stefan Kozlowski who headed Polish delegation for the Rio's UN Conference on Environment and Development told journalists upon arrival on Monday that "the new ecological ethics is a basic outcome of the "Earth Summit."

The Polish proposal to grant Nobel prize for the achievements in the protection of the world's natural resources was received with interest by the conference participants, the minister stressed, but the issue needs further discussing.

International consultations concerning implementation of the agreements will be a matter of importance. "Poland will set up a special programme council for monitoring the implementation of "the new ecological ethics", the minister said.

An idea of holding in Poland in 1993 an international conference on the effects of the Rio's "Earth Summit" outlining further agenda of environmental protection actions is under consideration, he added.

ROMANIA

Iliescu Proposes European Ecological Center in Bucharest

AU1306142892 Bucharest ROMPRES in English 0925 GMT 13 Jun 92

[Text] Bucharest ROMPRES, 13/6/1992—Addressing the UN Conference on Environment and Development in Rio de Janeiro on June 12, Romania's President Ion Iliescu proposed "the organisation in Bucharest with international assistance of a centre for the promotion of a European ecological space, taking into consideration the specific problems of the Danube basin, the Black Sea and the Danube Delta—a unique ecological space in Europe."

Ion Iliescu showed that, even if certain provisions of the documents proposed at the Rio summit do not fully meet the expectations or do not completely cover the ensemble of those domains having a major ecological risk, an important step forward is still made.

He said that the Rio summit was viewed as an example of high responsibility of the world states in approaching the common stringent problems, in looking for such solutions able to allow the survival of the planet.

Romania's president also said that the environment problems are a main concern for our country, too, because Romania is also confronting with such problems as soil erosion, atmosphere and water pollution, losses in certain ecological systems, degradation and pollution of beaches and coastal areas, use of polluting technologies, and so forth. He also mentioned that Romania is very worried over the nuclear risk posed by the possible accidents at certain

nuclear plants operating in insecure technological conditions. President Iliescu further referred to the danger posed by the transformation of certain developing countries or of countries in the transition process into platforms to store toxic wastes.

The Romanian head of state underscored on this occasion, too, that the very difficult process of radical changes on the path of the economic and political reform in Romania is irreversible and aimed at liquidating both the old structures and the mentalities of the totalitarian society.

REGIONAL AFFAIRS

OLADE Questions Crude Oil Tax Proposal, Assesses Earth Summit

PA1806151192 Quito Voz de Los Andes in Spanish
2300 GMT 16 Jun 92

[Text] The Latin American Energy Organization (OLADE) questioned the proposal aimed at creating a world tax on the use of crude oil. According to OLADE, oil producers, which are mostly developing countries, will end up paying the tax.

The regional organization pointed out that such a tax would appear to be a strategy aimed at penalizing the oil producing countries to relieve the fiscal deficits of the industrialized countries, instead of a proposal aimed at finding new sources of revenues to solve environmental issues.

OLADE, headquartered in Quito, indicated that to solve regional environmental issues, the flow of capital must first be reversed as our problems originate from poverty, which will only be solved by promoting development.

The proposal to establish a tax on the use of crude oil to finance environmental protection programs was presented during the Rio de Janeiro Earth Summit, which concluded on 14 June. The tax proposal did not receive much support.

OLADE also noted that the summit did not acknowledge the efforts made by Latin America and the Caribbean to decrease carbon dioxide emission by 30 percent by generating clean hydroelectric energy.

In a written statement, OLADE Executive Secretary Gabriel Sanchez Sierra pointed out the region's accomplishments between 1970 and 1990, which represented a considerable financial sacrifice, was not even considered by the Earth Summit. He added that the Earth Summit did not establish an agenda for follow-up actions and did not establish the necessary financial allocations to continue sustainable growth objectives.

As a positive aspect of the summit, Mr. Sanchez Sierra highlighted the fact that a country in the region served as host to such a significant meeting. The basis of an understanding that will govern the new international order during the 21st century will emerge from the dialogue that began at the Earth Summit.

BRAZIL

Biodegradable Plastic Project Presented in Sao Paulo

PY0606231092 Rio de Janeiro O GLOBO in Portuguese
5 Jun 92 p 22

[Text] Sao Paulo—The Sao Paulo Institute of Technological Research (IPT) yesterday presented the results of a pioneer project in Latin America: biodegradable plastic using sugar cane as raw material and degradable by bacteria. The research will be ready in four years at a cost of \$5 million.

Conventional plastics produced with petrochemical raw materials take from 30 to 40 years to degrade, causing great

damage to the environment. But biodegradable plastic can degrade in a few months, drastically reducing environmental risks.

The project was presented in a totally full auditorium at the IPT building on the University of Sao Paulo [USP] campus. IPT chemical engineer Celso Lellis Bueno Neto presented the initial results of this research, which is sponsored by the Research and Project Financier [Financiadora de Estudos e Projetos] of Copersucar [Sao Paulo Cooperative of Sugar and Alcohol Producers] and the USP.

The following people attended the presentation: Luiz Carlos Delben Leite, economic development, science, and technology secretary representing Sao Paulo Governor Luiz Antonio Fleury; IPT Director-Superintendent Francisco de Assis Souza Dantas; Copersucar representative Manoel Sobral Junior; and USP representative Ana Clara Schienberg.

President Collor Signs Forest Preservation Decree

PY1106123092 Sao Paulo O ESTADO DE SAO PAULO
in Portuguese 9 Jun 92 Ecological Section p 2

[By Elsa Pires]

[Text] Rio de Janeiro—The office of the president today released a decree signed yesterday by President Fernando Collor establishing the Pilot Program for the protection of Brazilian Tropical Forests. The decree also creates a Coordinating Commission to supervise and guarantee the implementation of the project.

Two years ago, during a meeting in Houston, Texas, the Group of Seven (G-7—seven richest countries) decided to allocate \$1.5 billion over a period of six years to protect Brazilian tropical forests. The first \$250 million will be used to mark the limits of Indian lands, locate extractive reserves, protect national forests, and recover research centers such as the Emilio Goeldi Museum in Para, and the Amazonia Research Institute (Inpa).

Maria de Lurdes Freitas of the National Environment Secretariat—responsible for the Pilot Program—said yesterday: "This is an attempt to show the world that it is possible to have a forest preservation program through international cooperation." She added that the World Bank (IBRD), which has agreed to make available the resources to Brazil, is studying the possibility of liberating \$8.2 million to cover the first phase of the program.

The decree signed by President Collor states that the Coordinating Commission will have 45 days to prepare and approve working regulations and procedures.

One of the two problems in starting the project was the creation of this commission since the Pilot Program was designed to receive G-7 funds. The program, which foresaw working with Non-Governmental Organizations (NGO), mainly those of the Amazon region, was delayed because some government sectors opposed the participation of those entities in the coordinating commission.

The decree signed yesterday guarantees the participation of two representatives of Amazon region's NGOs and one

representative of the NGOs responsible for Atlantic forests. This morning Jose Goldemberg, education minister and acting environment secretary, and German Environment Minister Klaus Toepfer will explain the objectives of the Pilot Program to the press. So far Germany has provided \$100 million of the \$250 million allotted to the Pilot Program.

President Collor Summarizes UNCED Results

PY1606014592 Rio de Janeiro Rede Globo Television in Portuguese 2302 GMT 15 Jun 92

[Speech to the nation by President Fernando Collor over national radio and television hookup; place not given—live or recorded]

[Text] My friends, today all Brazilians can feel proud of the duty that we have discharged. During the past 12 days we hosted in Rio de Janeiro the UN Conference on Environment and Development [UNCED]—the Rio-92. It was the largest meeting of world leaders in history. Top authorities of nearly every countries on earth were here—61 presidents and monarchs, 40 prime ministers, eight vice presidents and a crown prince.

A total of 175 countries were represented at the conference. It was an extraordinary event not just because of that large presence of heads of state and heads of government, but also—especially—because these heads of state, as well as thousands of other participants from the entire world, came, my friends, to discuss the most important issue for mankind's destiny—how to save our planet.

There cannot be an environmentally healthy planet in a social unfair world. After many debates and negotiations, we achieved important results.

First, we began to change mentalities. Today, I am convinced that most people believe, much more than at the beginning of the conference, that it is necessary to end both the devastation of nature, caused by short-term interests, and the devastation caused by situations of want, of lack of formation and information—in a nutshell, of extreme poverty and need.

Second, most people understand now that there are no partial solutions to these challenges. We must all work together to put into practice the decisions we made during these past few days.

I believe the most prosperous nations became more sensitive to the reality of the less developed countries and to the fact that, in order to save this planet, it is essential to act jointly to guarantee the well-being of each individual, of each inhabitant of our world.

We signed two international treaties that are mobilizing countries for the important tasks of preventing the earth's climate from being harmed by air pollution and protecting the wealthy variety of plant and animal species.

We signed three important documents—the Declaration of Rio de Janeiro and the Agenda 21, which propose a new course for the third millennium, and a resolution with principles for the rational use of forests.

The Global Forum, which was also held in Rio de Janeiro, gathered representative leaders and social organizations from the entire planet and decisively complemented the conference's work, serving to reaffirm the peoples' struggle for a better world.

My friends, on 11 August 1990 we took the first step of a beautiful journey for life when I announced in the Tijuca forest the decision to host the conference in Rio de Janeiro.

On these days, Rio de Janeiro was the capital of the Earth, hosting leaders from all nationalities.

We must be proud. We did right. We did what had to be done and we demonstrated an organizational ability that was praised extensively and appreciated by our visitors.

In addition, Brazilian diplomacy demonstrated its talent to lead in the achievement of the best possible agreements, helping to reconcile disparate positions.

The Conference on Environment and Development was essential for the world and also for Brazil. In addition to enhancing our prestige, by hosting the conference, international acknowledgment of the good implementation of our economic policy and the seriousness of our projects in the environmental arena came in the way of extremely important foreign investments.

Figures are much more significant. For the first time, after seven years and after adjusting our position toward the Paris Club, we will receive \$1.1 billion from Japan. We will receive \$1 billion from the World Bank. We will receive a portfolio that could total \$2.2 billion from the IDB [Inter-American Development Bank]. We will receive \$300 million from Germany. The total amount is \$4.6 billion. These are funds that will benefit most Brazilian states, including all the Northeastern states, Rio de Janeiro, and Sao Paulo, creating new jobs and financing environmental restoration projects such as the decontamination of rivers and bays, the protection of the Amazon region, the construction or duplication [duplicacao] of highways, and industrial and technological modernization.

My friends, I finally want to say a word of very special appreciation to the civilians and military personnel who worked for the success of Rio-92 and to all Rio de Janeiro State natives and inhabitants: The people of Rio de Janeiro, along with their authorities, are to be congratulated. They demonstrated hospitality, civility, cordiality, and competence. A demonstration of the Brazilian spirit is its best expression. The city revived its best days and I am sure these days will continue.

As in other moments of our national life, Rio de Janeiro was a synthesis and symbol of the Brazilian mind's ability. We have strong reasons to be optimistic that these moments will continue.

We will continue building our great destiny. We have just had evidence that we can make it happen faster than many people imagine.

Good night to all of you and may God bless us.

Environment Secretary Criticizes 'Diluted' Rio Treaties

PY1606120292 Rio de Janeiro O GLOBO in Portuguese
15 Jun 92 Rio-92 Section p 3

[Text] Jose Goldemberg, the education minister and environment secretary, has said that Itamaraty is deceiving itself when it describes the signing of the Declaration on Forests and the Declaration of Rio de Janeiro as a victory. He added that he believes these documents are "diluted."

Goldemberg, who clashed with the Foreign Ministry over his criticism of the Rio-92 conference, said a success was achieved in the signing of the Conventions on Climate Changes and Biodiversity, although he criticizes the absence of deadlines in the documents.

"Itamaraty works on a long-term basis and I am pragmatic. I want funds immediately," said Goldemberg before emphasizing his decision to leave the Environment Secretariat.

Environmental Agency Must Wait for Rio Funds

PY2006153492 Brasilia Radio Nacional da Amazonia
Network in Portuguese 1000 GMT 20 Jun 92

[Text] The IBAMA [Brazilian Institute for Environmental Affairs and Renewable Natural Resources] will wait to receive the funds approved during Rio-92 [UN Conference on Environment and Development] to finance environmental programs in Brazil. IBAMA will be able to use part of the \$4 billion allotted to the country only after the National Congress ratifies the Climate Change and Biodiversity Treaties. IBAMA President Maria Tereza Padua expects that Congress will ratify both treaties before the end of the year.

CUBA

Agriculture System Seeks To Preserve Environment

PA1306020892 Havana Radio Havana Cuba in Spanish
0000 GMT 12 Jun 92

[Roberto Morejon commentary]

[Text] The toppling of socialism in Eastern Europe, and the abrupt reduction of supplies to Cuba that accompanied that process, obliged the Caribbean country to emphasize biological means to ensure the promotion of agricultural production. This alternative uses organic and natural methods, as opposed to the increased use of chemical products. This constitutes a demand by many of those now meeting in Rio de Janeiro, the Brazilian city where the Earth Summit is being held.

As is known, an intensive agricultural system based on chemical agents was generalized worldwide because of its high yield in the short term. However, the disadvantages of the system were rapidly discovered because it requires a vast consumption of energy and contaminates the air because of the sustained use of artificial substances. Contrary to this, agriculture based on biological and natural agents favors the preservation of the environment through the use of insects,

organic fertilizer, and biological pesticides to obtain agricultural products of higher quality.

Cubans, in keeping with the current limitations and wishing to reduce the zones of contamination, are currently applying biological pesticides on 818,000 hectares of more than 6,700,000 cultivable hectares in all the island. This land is dedicated to the planting of tubers, grains, and vegetables. Another example of the introduction of biological agents in Cuban agriculture can be observed in the coffee harvests. Currently, more than 30,000 hectares of coffee plantations are integrated into the program. The situation is similar with citrus fruits. Over 10,000 hectares are treated with this technique. In the case of coffee, analysts recommended agrotechnical actions involving the regulation of shadows, and using live overheads, higher trees, and pruning and fertilizing, in order to favor the promotion of natural bioregulators.

Regarding citrus fruits, we can say that, simultaneous with the substitution of important volumes of chemical products, fruits were obtained that are similar in quantity and quality to those in the rest of the areas where the conventional methods were applied. The accelerated use of bioregulators on Cuban farmlands will favor the sanitary botanical conditions of crops, will contribute to reducing impurities in the environment, and will promote the nourishment programs seeking to attain self-sufficiency in agriculture.

MEXICO

Oil Policy Deficiencies, Deterioration of Pemex Facilities Highlighted

92CA0164Z Mexico City PROCESO in Spanish
No 809, 4 May 92 pp 10-13

[Report by Carlos Acosta, Salvador Corro, and Guillermo Correa]

[Text] Francisco Rojas Gutierrez, the general manager of Pemex [Mexican Petroleum], has said that in Mexican Petroleum "an attempt is being made to do more with less, but also to do it better." This has not been achieved, however. The parastate company is paying the price for 10 years of tight budgets, which has translated into inadequate investment for growth, personnel cuts, poor maintenance, and deteriorating facilities.

In the judgment of analysts and workers and as can be gathered from official documents, this policy is leading to a greater involvement of foreign capital in the industry, an inadequate output of gas and gasoline, a decline in oil reserves, and above all, more failures and accidents caused by wear and tear on and neglect of equipment.

In its day, the "neglect" of oil installations was a pretext for chilly relations between the labor leadership headed by Joaquin Hernandez Galicia, La Quina, and the then manager of Pemex, Mario Ramon Beteta. There have been continued reports of inadequate maintenance since Francisco Rojas took over as general manager in February 1987.

Today, in the wake of the tragedy in Guadalajara, the deterioration of Pemex facilities has been magnified to the

point that people living close to a petroleum plant are afraid that sooner or later a similar misfortune will befall them. Awareness of the danger has grown since 22 April.

On Friday 24 April a fire caused by a gasoline leak in a 12-inch pipeline caused panic among personnel at the "Pajaritos" petrochemical complex, who had to be evacuated along with the staff at the nearby Fertimex [Mexican Fertilizers] plant. The management of the parastate company ordered a suspension of the pumping of gasoline from the "Lazaro Cardenas" refinery in Minatitlan to the terminal near Coatzacoalcos.

Three days later, gasoline, oil, and grease were detected in telephone conduits and in sewers in Puerto Vallarta and Poza Rica. In the first case, the authorities ordered the evacuation of at least 20 families and of nearby stores. In spite of Pemex denials, the leaks were verified by the second commander of the municipal police, Alfredo Salinas Ayala. In Poza Rica, the fuel spills occurred after a storm caused them to overflow manhole covers.

The same day, in Merida, the SEDUE [Urban Development and Ecology Secretariat] delegation closed two gas stations after removing 80,000 liters of water mixed with fuel from household wells in the southern section of the city. The incident forced Governor Dulce Maria Sauri Riancho to ask Pemex to do an exhaustive check of gas stations in the Yucatan capital.

In the Municipality of Guadalupe, Nuevo Leon, Pemex officials, environmental authorities, and local residents detected gasoline near the parastate company's storage plant; this was found to represent a 20 to 40 percent risk of an explosion. Pemex admitted that 30 water wells near the San Rafael plant are contaminated with fossil fuels and would therefore be shut down.

On Tuesday 28 April, a gasoline leak from a pipeline at the Pemex plant in Cuernavaca prompted fears among residents of the colonias [urban communities] of Martires de Rio Blanco, Quinto Fraccionamiento, and Tulipanes, who recalled that four years ago there was an explosion at the facility. According to the locals, "we are living on a time bomb. What we need is to have the pipe fixed, not to have them prepare us to deal with an accident."

In Mexico City, a leak at a downtown gas station on the corner of San Jeronimo and Bolivar dictated a dramatic emergency response. Local residents were evacuated; five streets were closed to traffic, and subway service was suspended at the Pino Suarez, Isabel la Catolica, Salto del Agua, Balderas, and Cuauhtemoc stations. Experts estimated the risk of an explosion at 40 percent. By 1800 that day, 12 200-liter drums of fuel had been filled.

In Saltillo, the capital of Coahuila, part of the downtown area was evacuated, and deliveries of natural gas were suspended.

As correspondent Luis Angel Garza reported, the preventive measures included the closure of 250 businesses, including hotels and markets, the suspension of classes for 12,000 students, and a temporary halt to natural-gas deliveries to about 8,000 homes.

On Friday 1 May in Mexico City, people living near the former Azcapotzalco refinery, which is still operating as a gasoline storage plant, confirmed that there were fuel leaks. Salvador Hernandez Ayala, a local resident, said that company technicians were taking measurements to gauge the risk of an explosion.

In 1988, enough gasoline was extracted from the subsoil to fill 45 tank trucks that can hold 20,000 liters each. Hernandez Ayala recounted how at the time, specialized personnel drilled wells up to 4 meters deep to remove the gasoline. The residents were not evacuated "though it was known that the multipurpose pipeline that goes to Barranca del Muerto had burst."

Ten Years of Savings

Two key measures characterized the oil policy of Miguel de la Madrid's six-year term, said university researcher Fabio Barbosa, a policy that is still being pursued: "a drastic cut in investment in the industry, which plummeted 85 percent between 1981 and 1987, and the new fiscal policy that was imposed on the parastate company, which made off with 50 to 60 percent of its sales revenues."

Ten years of tight budgets, he adds, have created production problems, although the decline in investment has not affected all areas equally. "There seems to be general agreement that exploration and primary production, as it is called in oil-industry jargon, as well as refining, have deteriorated the most. When referring specifically to them, and announcing new investment plans at the same time, Ernesto Marcos Giacomani, the assistant financial manager of the parastate company, acknowledged that they had suffered through a lost decade.

"Exploratory drilling fell from an average of 80 wells a month during the boom (418 between 1977 and 1981) to a little more than 20 during the latter years of the decade. According to Pemex reports, oil reserves declined 10 percent during the period in question."

Having studied Pemex for more than 20 years, Fabio Barbosa, from the Institute of Economic Research at UNAM [National Autonomous University of Mexico], emphasized that "the fact that Mexican refineries are forced to process growing percentages of heavy crude from Campeche Sound has contributed to the deterioration of production in the branch. Not only do these crudes have lower yields, they also cause corrosion in pipes and equipment, owing to their high concentration of harsh substances like carbon and sulfur, and cause carbonization and other damage in the boilers.

"These problems are, of course, linked to macroeconomic policies, because our refineries are being strained with heavy crudes in order to free up light oil for export as it commands a higher price on the world market."

According to Barbosa, the events in Guadalajara and the paranoia in several regions of the country are "the reflection of an oil policy that has sacrificed resources for the purpose of lowering operating costs."

He explained that the budget for operating expenses includes wages and salaries, the procurement of imported materials, general services such as freightage, and the maintenance of facilities.

"In this category, Pemex posted its highest expenditures in 1980, with 2.9 billion pesos, because according to data from the parastate company, they fell to 1.9 billion pesos in 1987. In real terms this represents a 35 percent drop in the enterprise's spending on maintenance."

Basing his comments on the "Memoria de Labores" [annual report] that Pemex has just published, which says that "the status of cathodic protection in 19,500 kilometers of pipelines was checked" in 1991, the researcher asserted that the parastate company is thus admitting that it failed to check 40 percent of them.

The official Pemex document also states that "5,324 km of piping were kept protected from internal corrosion, and this system was installed in 1,295 more kilometers." According to the analyst, this reveals that Pemex left 80 percent of the National Pipeline System without such protection.

Fabio Barbosa explained: Pemex's nationwide network of pipelines includes 4,440 km of oil pipelines, 13,136 km of gas lines, 8,250 km of piping to carry petrochemicals, and 1,385 km for other purpose, yielding a total of 27,211 km. "Based on these numbers," he noted, "I figured out the percentage of piping that is not being looked after."

The researcher added that Pemex has one of the most modern technologies in the world, so much so that it uses a computerized system to gauge the flows, temperatures, pressures, and volumes of the liquids that are being pumped through the various pipelines from one terminal to another. In fact, he said, this information is instantly transmitted by satellite to other points where there is a computerized communications network.

"The bad part is that Pemex is using this technology only at three privileged spots in the national oil system: Campeche Sound, the private areas in Chiapas and Tabasco, and the Pacific oil project.

"This means that the enterprise is devoting its technology to the areas assigned to exports, while the land-based infrastructure, which is designed for domestic supply, is completely worn-out and neglected. The Pemex facilities are, from a scientific standpoint, a technological museum that houses both the old and the new, the only problem being that the latter is used solely for the benefit of the export industry; this explains why we often have accidents in the land-based infrastructure."

Far from what the management of the parastate company contends, the nationalized oil industry, as Cuauhtemoc Cardenas Solorzano charged this past 18 March, "has been badly treated in a thousand ways, and not just through the improper management of reserves. The funds made available to it have declined steadily, and thus regular maintenance work has been impossible. This is the reason for the increasing number of accidents and the damage and losses arising from them. In 10 years, public investment in the petroleum sector has fallen by 66 percent."

Salinas and Pemex

The policy of Pemex budget cuts started during the time that Carlos Salinas de Gortari was secretary of planning and budget. The 1987 accounting statement of the Federal Public Treasury, which compares what was budgeted with what was spent, reported that "the biggest problem that Pemex faced (that year) stemmed from excessive inflation and its impact on other economic variables. Activities had to be pursued in the setting of a severely tight budget, which hurt the investment program, although this did not prevent it from achieving most of its annual operating goals.

"The economic situation dictated frequent cuts in financial allocations and investment programs, which adversely affected the procurement of capital goods, the contracting of services, and the pace of work at projects. The resulting uncertainty complicated biddings and contracts and raised the cost of projects."

It was even being mentioned back then. Pemex "acknowledges without reluctance that it must be consistent with the macroeconomic setting in which it operates and has thus restricted its investments to what prudence advises. This year (1987) we have continued to cut investment expenditures while making use of materials and equipment in stock and scheduling nonpriority projects. It behooves us, however, to remain alert to the risks that would be entailed if this trend had to continue."

Things did not improve in subsequent years, however. In 1988, the SPP [Secretariat of Planning and Budget], headed almost throughout the six-year term by Carlos Salinas de Gortari, had this to say about the financial status of the parastate company: "The budget that the Honorable Chamber of Deputies authorized for Mexican Petroleum in 1988 was smaller in real terms than the one for the previous fiscal year. Similar situations arose year after year during the past six-year term and caused major backlogs in the categories of maintenance and investment and, in general, a slow work pace on projects. The unavoidable overrun in operating expenses in 1988 was offset by a drastic cut in capital spending."

In 1989, according to the official line, "effective maintenance work (in Pemex) was reflected in the completion of production programs and in the fact that security indicators remained at the high levels they achieved in 1988. The frequency rate of accidents has declined 24 percent since 1986, and the number of deaths in occupational accidents has been cut by more than half," the same secretariat reported.

The government's position was always challenged by the union leadership, until Joaquin Hernandez Galicia was jailed on 10 January 1989. After the San Juanico explosion, La Quina stepped up his criticism of Pemex management over the lack of facility maintenance, which he had been speaking out against even prior to 1984. He warned then President Miguel de la Madrid that unless the installations were looked after, there were going to be explosions like the one at San Juanico all over the country.

Jose Sosa Martinez, the official secretary of the oil workers union, gave a famous speech on 8 January 1986, telling Miguel de la Madrid: "The oil workers can see that because of poor management Pemex is on the verge of collapsing, and if it collapses, we will collapse, you and the country." The president countered him emphatically: "I do not agree with the assertion that Mexican Petroleum is weak and risks a catastrophe." The following day the oil workers union organized a meeting of secretaries general at which each described the deterioration of the facilities in his respective section throughout the country.

Carlos Romero Deschamps, the current interior secretary and number two man in the hierarchy after Sebastian Guzman Cabrera, said at the time on behalf of Section 35: "I am here to tell you, my friend Sosa, with all due respect that what you said yesterday fell short. More than just spare parts are lacking at the refineries in Azcapotzalco and Tula. I would add that the most serious problem is the incompetence of the officials. For example, in Azcapotzalco, parts are being replaced with cheaper ones by the decision of one official. This happened with the catalytics. Now they have to be checked every three months instead of every two years, and that costs a lot more. In short, they did not save themselves anything, they are spending more."

As now, the complaints came from all over the country. The leader in Salinas Cruz (Section 38), Alfredo Lopez Ramos, who is currently in jail, mentioned that no maintenance was being performed at the refinery. The head of Section 33 reported that he had submitted a 170-item list with complaints, petitions, and defects. The head of 26 even said that he was embarrassed to show up at workplaces because the workers thought that the leaders did not want to resolve the company's problems. The head of 30 reported the rumor that 92 drilling rigs were going to be shut down, which was eventually confirmed.

A Special Joint Commission was set up in February 1986 at the president's initiative to try and smooth over the rough spots. But it did not work. Some months later, after Jose Sosa had underscored on 18 March how dangerous the installations were, La Quina, who was already openly at war with Mario Ramon Beteta, proclaimed that Pemex urgently needed to allocate more money for upkeep at its oil facilities and not spend so much on "superfluous" things because otherwise "there could be another San Juan Ixhuatepec, there could be more fires and deaths, and the industry could shut down."

You Could See It Coming

The situation has not changed under Francisco Rojas, who took over as Pemex manager in February 1987. The labor leaders who were sounding warnings back then are now in jail. The explosions, fires, leaks, pipeline breakages, out-of-control wells, and even helicopter crashes continue, the difference being that the situation has become even trickier during this six-year term because the restructuring or modernization of the company has further restricted its funding.

In April 1989 operating expenses were cut 15 percent leaving 30,000 temporary workers without jobs and unionized workers without overtime, abolishing the union commissions and special positions, suspending salary advances, and postponing the payment of Christmas bonuses. There was no staff turnover for vacations, leaves of absence, or disability.

Document SDF/467-89, which the assistant director of finances, Dr. Ernesto Marcos Giacomani, sent to six assistant directors, speaks for itself: "Allow me to inform you that the authorities of the federal government have decided to set a ceiling of 2.611 trillion pesos for Mexican Petroleum's operating and investment budget for the second quarter; this is equivalent to 20 percent of our annual budget. This implies that the company will have to cut its operating and investment expenditures by 15 percent during the second quarter. To this end, the feeling is that the cut should be proportional in all divisions and that each assistant director will be responsible for carrying it out." This policy continues.

The spending authorized for 1990, 16.9766 trillion pesos, was in real terms similar to the amount authorized for the previous year. Nonetheless, thanks to the "strict controls established on spending appropriations, the measures taken to raise productivity in all areas of the industry, and the maximum utilization of human and material resources," the company saved 7 percent of the amount authorized. This was also down 26 percent from 1988.

Under the slogan of "doing more with less, but also doing it better," Francisco Rojas reported this past 18 March that "through strict observance of budgetary discipline, total operating expenditures declined in real terms by more than 2 percent, remaining at around 13 trillion pesos."

Federal Deputy Raul Alvarez Garin (Party of the Democratic Revolution) contends that the worst is yet to come, as the parastate company plans to keep firing personnel until it reaches its goal of 55,000 unionized workers and 18,000 staff personnel. In 1989 the payroll was 210,000. As of now Pemex has dismissed 130,000 workers.

Sebastian Guzman Cabrera, a principal in the battle that La Quina waged in Pemex and the current national leader of the union, defends and justifies the company today: "It is difficult, almost impossible, to conduct a thorough inspection at all installations, oil and gas pipelines, and multipurpose pipelines. We must not devil-bait Pemex."

Salinas Comments on Results of Earth Summit

PA1506214092 Mexico City Canal 13 Television Network in Spanish 1300 GMT 15 Jun 92

[Text] Mexican President Carlos Salinas de Gortari arrived in Mexico City from his working visit to Costa Rica, Venezuela, and Brazil. Salinas said his visit to Costa Rica proved very encouraging because a commitment was made to sign a commercial cooperation agreement with Central America this year. Salinas said that Mexico's commitment for a better environment was affirmed in Brazil and that firm actions will be taken to improve the environment for the benefit of many of his countrymen.

At the end of his visit to Rio de Janeiro, Brazil, where he attended the Earth Summit, Salinas said: Without funds, it is very difficult to meet the challenge implicit in cleaning the environment. During a news conference for Mexican correspondents and journalists, Salinas said the funds must come from two sources, internal savings in each nation and each nation's own natural resources. He also said that the environment cannot be protected with only aid, but that a solution must reach deeper into the causes for the problems.

[Begin Salinas recording] The need for funds to protect the environment cannot be met with aid alone. For decades, we witnessed the total inefficiency of the so-called aid programs to solve poverty problems. Just as these programs failed to solve poverty problems, they will not solve environmental problems either. So aid is not the issue, but greater opportunities and access to the great markets of the industrialized countries through freer trade. [end recording]

During the news conference in Rio, Salinas said the protection of the environment is a priority item for his government and that, for this reason, the agreements signed during

the Earth Summit will be abided by the Mexican Government. Assessing the UN Conference for Environment and Development, Salinas said the work on ecology has not yet been completed.

[Begin Salinas recording] We departed encouraged, but we could not say we regard the work as completed. It has barely begun. For a number of years, we have been firmly fighting abuses on the environment. [end recording]

Salinas also referred to the use of technology that does not harm the environment. He said that traditional technology has caused harm in many cases and that it is more costly to correct the deterioration than to prevent it.

[Begin Salinas recording] There must be an equitable distribution of the efforts and costs because the situation becomes paradoxical. Pollution is most serious in the regions with the poorest people. It would be hard to ask them to tax their incomes even further because all they are doing is to survive. [end recording]

Salinas, who was accompanied by Social Welfare Secretary Luis Donaldo Colosio and Inter-American Development Bank Director Enrique Iglesias, said the meeting that concluded in Rio de Janeiro can be regarded as a continental divide because a biodiversity and convergence in the North and the South was recognized.

REGIONAL AFFAIRS

Study Examines Environmental Pollution in Arab Countries

92W/N0481D Riyadh AL-RIYAD in Arabic 20 Apr 92 p 20

[Article by Qutb al-Dawwi: "Arab Research: Scientific Study Warns of Environmental Pollution in Arab Countries; Pollution Illegitimate Offspring of Industrial Advance; Fighting It Requires Thousands of Billions of Dollars; National Agencies Needed To Protect Arab Environment; Police Squads To Implement Laws To Combat Pollutants"]

[Text] Cairo—Pollution is a serious phenomenon in developing countries. It is the illegitimate offspring of the industrial revolution and the focus of a struggle, particularly since the beginning of the seventies. In Egypt, the minister of industry is demanding that the major industrial countries bear the costs of pollution in the developing countries because they are primarily responsible for this pollution resulting from waste in their factories, which has reached a serious stage in Egypt. At the same time, Eng. Muhammad 'Abd-al-Wahhab, minister of industry, stresses that the cost of getting rid of pollution in Egypt is estimated at about 2 billion [Egyptian] pounds, which state resources cannot manage at present.

Studies show that 40 percent of Egypt's industrial corporations are located in the metropolitan Cairo area, where they spew their waste and exhaust in the air thereby raising pollution levels.

In this investigation, we look at some of the studies that are sounding the alarm before a human disaster occurs in the Arab countries.

The issue of pollution and preservation of the environment in our time makes up the pages of newspapers, magazines, and global news agencies. Everyone is concerned with this issue, even though it is not new. Pollution has been man's companion since he first appeared on earth. Up until the 14th century AD, pollution was a phenomenon in small locations.

Then about 1400 AD, coal was discovered and found to be a source of heat energy. Coal, however, also became an irritating source of noxious sulphur odors and smoke. As a result, there were many complaints that contain a large percentage of sulphuric materials [as published].

Pollution is defined as the failure to control chemical materials and waste. For a long time the world maintained an ecological balance, but with the onset of the industrial revolution, the growth of population, and the amazing spread of forms of transportation, the balance began to change. Wittingly and unwittingly, mankind began dumping thousands of tons of soluble poisons and pesticides without have chosen or understood the effects of these pesticides and poisons on himself and on the environment.

The developing countries, most of which still live in virgin environments, are trying to catch up with the industrial counties. Their developmental priority is to eradicate poverty, which they consider a basic factor. In China, the spread of malaria is considered more dangerous and destructive

than the use of the pesticide DDT. China is very eager to continue use of this pesticide despite knowing full well the harm it causes.

Other harmful effects caused by pollution are the physical and psychological suffering that man endures as a result of breathing noxious odors and being afflicted with such illnesses as bronchial catarrh, asthma, allergies, and cancer disease. Pollution also damages buildings, machinery, and farm crops, poisons water supplies, and impairs the quality of the atmosphere.

Sources of pollution are the following:

- Pollution resulting from burning fuel,
- Pollution resulting from such industries as petroleum refining, petrochemicals, cement, and lime, and
- Pollution resulting from high population density, such as burning rubbish.

Some elements and gases causing pollution are found in the air. These include carbon monoxide, carbon dioxide, smoke, sulphuric compounds, cement particles, hydrochloric acid and gas, nitrogen oxides, and lead ethyl resulting from gasoline combustion. One statistic says that a single cubic meter contains 1350 micrograms. This has led to a reduction in the amount of solar rays. A single atom of chlorofluorocarbon destroys 100,000 parts of ozone, causing skin cancer and darkening of the cornea in humans, a rise in global temperatures, which threatens to melt the ice caps at the north and south poles and flood coastal cities, in addition to liver cancer and collapse of the immune, respiratory, and nervous systems.

Water Pollution

Water pollution is the untreated discharge of factory and human waste into river and sea water. This kills living things and spoils the drinking water. Examples of discharges into rivers include caustic soda, sodium sulphate, organic materials, acids, alkalis, dyes, sewage water, and waste from ships. The most serious leakage into rivers comes from nitrogenous fertilizers. Although they bring about higher agricultural yields, overuse causes an increase in aquatic plant life, blocking river channels and canals, and limiting river navigation.

An even more destructive danger is that posed by waste from nuclear reactors containing radiation harmful to man, animals, fish life, and all aquatic creatures. Many residential buildings and factories that discharge waste have been built on Egypt's great Nile River.

Food Contamination

Food is contaminated when it contains a high percentage of microbes that cause such illnesses as cholera, tuberculosis, blood diseases, and kidney failure. It also has a direct effect on man's immune system. Such contamination occurs when the water used for irrigation contains these microbes. Food contamination can be either biological or chemical. Lead has a harmful effect on the nervous and urinary systems. Mercury affects the central nervous system. Cadmium, used in electroplating metals, affects the kidneys. Insecticides,

used to eradicate pests, are absorbed in large amounts by food plants, and thereby reach mankind.

There is also radioactive pollution which falls on agricultural lands and natural pasturage. It reaches man when he ingests these foods or when he eats the flesh or dairy products of animals that have fed on contaminated grasses. The radioactivity then afflicts man and causes a disease known as leukemia.

Scientific Study Warns

The study reported that natural dry air is composed of 78 percent nitrogen by volume, 21 percent oxygen, and the remaining one percent is composed of argon gas, parts of carbon dioxide, about one-half percent of water vapor, and slight traces of carbon dioxide, sulphur, formaldehyde, iodine, sodium chloride, ammonia, carbon monoxide, ozone, some dust, and particles of plant pollen. All of these are in a concentration of about four parts per million as natural pollutants in the air.

The study added that modern research has proven that many of the materials used in industry and various commercial activities are highly poisonous, and that some of them, including mists, gases, and vapors, escape into the air in large amounts.

These mists, gases, and vapors are unnatural air pollutants that damage property, plants, and roofs, reduce visibility, cause numerous annoyances to man, and harm one's health.

At the conclusion of his study, Dr. Sa'd 'Awad demanded that advanced nations take steps to solve the problem of air pollution, by using special precipitators for unwanted suspended materials and compounds depending on the type of industry, and by the establishment of a control agency whose task it would be to measure and apply standards for the emission of pollutants from factories and vehicles, to conduct ongoing regulatory operations, and to apply the law firmly against violators.

Pollution Affects Architectural Heritage

In his latest study of pollution, Dr. Eng. Sayyid 'Abd-al-Halim Muhammad, professor of architecture at the faculty of engineering, points out that gas pollution includes carbon dioxide resulting from burning fuel at electrical plants and factories, carbon monoxide, a poisonous gas that results from the incomplete combustion of fuel and rapidly combines with oxygen, and carbon dioxide, a rapidly evaporating gas and one of the most serious chemical pollutants, and the gas of nitrogen oxides gas created when nitrogen comes into contact with very hot roofs and reacts chemically and photosynthetically with the sun to create smog and acid rain.

Chemical Pollution of Air

The archeological monuments of different kinds spread [throughout the world] confirm that the basic material used in their building is stone. One property of stone is that it reacts rapidly with sulphuric acid, which is quickly created in the form of a mist when sulphur dioxide dissolves in moisture present in the atmosphere. The result can be measured by the erosion on London's obelisk, where the

degree of erosion during the last 70 years is many times that of [the previous] 2000 and resulted from the smog created when nitrogen oxides generated by factories and vehicle emissions reacts chemically and photosynthetically with the rays of the sun. [as published]

Study Recommendations

In the conclusion of the study, Dr. 'Abd-al-Halim demands that a national agency be established to protect the environment from pollution, to prepare industrial maps to pinpoint the locations of factories where pollutants are being emitted so they can be fought. This could be a primary element or material for other industries.

The study demands that a council be established in each country to pinpoint the sources of pollution and that no industrial establishments be licensed until after their pollution impact has been studied.

The study demanded the establishment of a police agency for environmental affairs similar to the tourist and archeological police to be responsible for overseeing the enforcement of laws to preserve the environment and prevent pollution.

EGYPT

Minister Comments on 'Positive' Results of Rio Conference

NC1606072092 Cairo MENA in English
1912 GMT 15 Jun 92

[Text] Cairo, June 15 (MENA)—Dr. 'Atif 'Ubayd, minister of state for administrative development, returned here this evening, coming from Brazil, after having chaired Egypt's delegation to the UN Conference on Environment and Development, which wound up proceedings yesterday in Rio de Janeiro.

Dr. 'Ubayd plans to submit, during this week, a report to President Muhammad Husni Mubarak, on the results of the conference.

Dr. 'Atif 'Ubayd stated upon arrival that the results of the conference were positive as far as Egypt is concerned where support and appreciation were rendered evident for President Husni Mubarak. He said that through his meetings with heads of states and delegations from 25 countries, he was assured of the fact that Egypt is going to attain priority among the Third World countries in obtaining appropriations to be allocated for its programmes of development of natural resources and family planning.

"The conference succeeded at all levels, and it is sufficient for the world countries to meet while prompted by a common fate and objective", he added, noting that the conference faced no problems.

Population Issues To Be Addressed at 1994 Cairo Conference

NC1506090592 Cairo Arab Republic of Egypt Radio
Network in Arabic 0335 GMT 15 Jun 92

[From the press review]

[Text] AL-AHRAM publishes an editorial today under the title "One World", in which it says: The Earth Summit has referred the population issue to the Cairo conference which will be held at the end of the summer of 1994 and which 178 countries will attend.

AL-AHRAM adds: Until then, 12 preparatory conferences must reach an international consensus to cooperate in solving this issue and not leave the responsibility to the Third World alone.

The paper remarks: The developed world is talking about one world, the members of which share the earth's bounty and bear responsibility for preserving it. The population issue must also become an international one, like the environment and other issues which the Earth Summit in Rio de Janeiro discussed. There are fears that such international consensus will not be achieved; just as they were in Rio, some major countries are reluctant to take direct responsibility for confronting problems.

Noting some major countries' selfishness, the paper urges developed countries to adopt a different outlook, based on participating, for the first time, in solving Third World problems, for which the developed countries are primarily responsible.

IRAN

First Vice President Sees Earth Summit as 'Generally Positive'

NC1506084492 Tehran Voice of the Islamic Republic of Iran First Program Network in Persian 0230 GMT 15 Jun 92

[Text] First Vice President Habibi last night, according to Tehran time, addressed correspondents at the Rio-92 conference venue and described the conference as generally positive.

Habibi stressed that propounding the issue of environment along with development is very significant. He said the industrial countries are in the forefront when it comes to responsibility for polluting the environment.

According to our correspondent dispatched to Rio de Janeiro, the first vice president said industrial countries should pay for eliminating the pollution they cause. We continue this report with a recording by our correspondent received half an hour ago:

[Begin correspondent recording] Habibi added: In our view, a special body should be assigned to monitor environmental issues. Developed countries should accept its funding. He stressed that technology to be known as direct technology should be placed in developing countries' hands.

Answering a question, our Vice President Habibi elaborated on the stance of the Iranian Government on Charter Number 21, saying: We have accepted it in full. [end recording]

Commentary on Earth Summit Shortcomings

LD1706201992 Tehran IRNA in English 1744 GMT 17 Jun 92

[Text] New Delhi, June 17 (IRNA)—Despite all the tall claims made by the world's leaders as they return from Rio, the Earth Summit has been anything but a success.

The hopes that the conference had aroused in the industrialised countries—that it would take the first steps towards making the world safe for future generations—have been belied. At the same time, some of the misgivings harboured by the developing countries about its possible outcome have come true.

Along with other developing countries, India and the rest of the seven South Asian countries have undertaken to limit the increase in their consumption of fossil fuels energy to reduce air and water pollution and to protect the biological diversity of their flora and fauna.

But the additional resources they had hoped to get from the rich, which alone would make it possible for them to fulfill these promises without diverting their own scarce resources away from development are nowhere in sight.

Only one country, Japan, has given any firm indication that it is willing to increase resource transfers bilaterally to compensate the developing countries for the responsibility they are being asked to shoulder.

The conference has decided to set up a sustainable development commission to monitor the performance of the signatories of the treaties.

From this to the application of trade and other sanctions against erring countries is a short step.

The only gain from the developing countries point of view has been the isolation of the United States from the other developed countries because of its unwillingness to sign the biodiversity commitments—to reduce carbon dioxide emissions—from the global warming treaty.

The non-governmental organisations from the poor nations of the south have demanded that a convention on poverty be negotiated immediately, alleging that the United Nations Conference on Environment and Development (UNCED) or Earth Summit was an 'absolute disaster' because it had failed to address the issue of poverty which concerns a vast majority of people in the world.

Addressing a press conference after launching the 'Global Forum for Environment and Poverty,' (GFEP) Mr. Atiq Rahman of the Bangladesh centre for advanced studies, said there can be no sustainable development of the north or the south or the planet earth without eradication of poverty. "To us, the central question in environment is poverty. And this has not been adequately addressed at UNCED."

Mr. Anil Aggarwal of the New Delhi based Centre for Science and Environment, another member organisation of the new forum, said "the UNCED was a disaster even before it started because it addressed only the Western agenda of global warming and biodiversity and [word indistinct] organisation of the new forum, said "the UNCED was a

disaster even before it started because it addressed only the Western agenda of global warming and biodiversity and lent out the issue of poverty which affects a majority of the people of this earth."

Mr. Achuka Awori of Kengo, a coalition of 200 Kenyan organisations, said the Western media and the governments were playing up population as a major cause for environmental degradation but "we believe that the cause is over consumption of the earth's resources by the people of north."

According to the UN's own figures, the north, where 30 percent of the world's people live, consumed 70 percent of the world's resources. Also, the earth produces enough food for all people that inhabit it but it is not distributed equally and evenly.

The declaration also demands that the flow of resources from the south to the north be stopped immediately.

Nearly dls 400 billion are transferred from the south to the north annually, according to the figures released by the centre for science and environment.

Arguing that the trend be reversed, Mr. Anil Aggarwal said the practice of all civil nations of taxing the rich for supporting the poor must be followed at the global level.

The reasons why the Rio conference has ended in disappointment are not far to seek. Indeed, they were spelled out by none other than President George Bush while explaining why he refused to sign the Biodiversity Treaty and insisted on watering down the Treaty on Global Warming. He said he could not let concern for the environment cost his country jobs.

If that is true for the richest nation on earth then it is many times more true for the developing nations which are plagued with population growth, unemployment and a scarcity of capital, foreign exchange and technology.

Agenda 21, the ambitious blueprint for an ecologically safe world that was debated in Rio, failed to resolve the implied conflict between environment and development. It failed because it chose to make the safe recommendation that countries should try to reduce their consumption of energy and find cleaner ways of using what they must, instead of the riskier recommendation that they look for environmentally benign source of energy and continue to grow.

The omission is understandable, for at present the entire superstructure of industry is built on the energy base of coal and oil and would have to be changed if the world switched to a radically different source of energy. But a moment's reflection shows, for most developing countries, particularly for those of South Asia—this is the only way to go.

South Asia's main needs are power for its industries, transport fuels for its rapidly growing transport sector and non-commercial cooking fuels for the poor. Indeed, the last is the most urgent because almost half of the total energy consumed by the SAARC [South Asian Association for Regional Cooperation] countries is accounted for by the domestic sector and consists mainly of non-commercial fuels scrounged from its dwindling forests and grasslands.

All these needs can be met from two sources of energy that not only make no demands on the eco-system but help strengthen it: Solar energy for power generation and biomass for transport fuels, fertilisers and non-commercial cooking fuels.

The implications of such energy are staggering—no more dependence on oil imports. But the implications for the eco-system are equally astounding.

Solar power is, by definition, clean. The cleanest and most efficient form of biomass is wood. But since wood is in short supply in most developing countries, it will have to be grown. This means, millions of acres of semi-arid lands at present either lying fallow or under low-yielding low value crops can be brought profitably under fuel woodtrees.

All the above technologies are fully proven. They have not been brought into commercial use yet as their cost is far higher than that of conventional power generation or the production of transport fuels from oil. However, were the full social cost of relying on fossil fuels to be taken into account, it is likely the scales would tip the other way.

By highlighting the poverty of the conventional approach to sustainable development, the Rio summit may have done the world a favour.

ISRAEL

Israel's Water Resource Alternatives Viewed

92W/N0582Z Tel Aviv YEDI'OT AHARONOT in Hebrew
26 May 92 p 4

[Article by Nurit Arad]

[Text] When Professor Dan Zaslowsky left the ivory tower of academe to become Water Commissioner on 19 August 1991, the Sea of Galilee was three meters below the mark and the Israeli consumer was being asked to install "water savers," shower in pairs, let their gardens go dry, and wash their cars with a bucket. There was even talk of importing water from Turkey.

But he was dealt a wild card. After nine months in his post and a rainy winter, the Sea of Galilee is full and it is difficult to recall a more encouraging water state of affairs. Still, Zaslowsky blames himself. "I have been lax in getting out the word; the Israeli people mistakenly believe that there is no further need to save water. We have to get used to the fact that water is a scarce resource that we will always have to use sparingly. Do not deprive yourself, just do not waste." He promises to return soon with a new "water savers" campaign.

He recently came home from the multilateral talks in Vienna, where he represented Israel on the regional water panel. Zaslowsky lowers his voice when speaking about water and the neighboring countries, as though afraid of impeding the momentum. He chooses his words carefully; he would prefer that the entire subject stay out of the press.

"We will not get more water by cooperating with Jordan," says Professor Zaslowsky, "but it is a matter of neighborly relations. Most of the representatives, Israelis and Arabs

alike, do not understand what is at stake. They falsely assume that there will be peace if we redistribute water as they did with the Nile, the Euphrates, and other sources. But that is not the situation.

"West of the Jordan River, there are 370 cubic meters of water per person per year, compared to less than 300 in Jordan, 2,000 in Syria and Lebanon, and 4,000 in Iraq. Egypt has 1,200 cubic meters per person per year, more than triple what is available in Israel and Jordan. And what was the first subject the Syrian delegate raised at the start of the multilateral talks? That the Nile was off-limits for discussion.

"Israel and Jordan are pushing their water supplies close to the limit; some places are even over-exploited. So what do they want us to do, slide into deficit? Better that we jointly use the little there is."

Zaslovsky cynically adds, "We are truly ready to share water with our neighbors—Syria, Egypt, and Iraq. Syria, for example, has an agreement with Jordan permitting them to draw up to 90 million cubic meters of water from the Yarmuk [River]. But they have taken 200 million cubic meters so far, so they are actually stealing water from Jordan and Israel."

[Arad] *What was the joint plan that Israel brought to the talks?*

[Zaslovsky] In the bilateral talks, we are looking for common projects that one country could not carry out or that would not be worthwhile for it to do alone, such as, for example, capturing flood waters that drain from the Jordan into the Dead Sea or building a canal from the Red Sea to the Dead Sea. We have no plan for Syria just now. In theory, we could work with Lebanon but we do not have a plan because the two sides are not talking to one another.

From reading the newspapers, I have learned that the Lebanese have proposed selling Israel water from the Litani [River]. I do not know whether it's a serious offer or worth pursuing. Anyway, I have not heard anything about it.

[Arad] *If the talks are not leading to any decisions, what is their importance?*

[Zaslovsky] Mostly in regional cooperation in scientific and technological matters. We are talking about joint projects to build model installations for desalinating water and creating a data bank for exchanging information. The importance of the talks lies in getting together and exchanging information.

[Arad] *Do you have a plan for next winter?*

[Zaslovsky] No. We have draft plans for rainy, average, or dry conditions. But who is talking about winter when it still is not clear to me what this summer will be like? Evaporation, which is directly related to the weather, is the gravest problem in the summer. Until this summer is over, we will not know our water balance for going into next winter.

When Zaslovsky joined the Water Commission, he says, he found no general plan for solving Israel's water problem. Such a plan is now in the works. It will have three main features:

1. Restoring the coastal aquifer and distributing its water
2. Implementing the plan for recycling used water, which is still an unexploited source of water for the state and the greatest source of pollutants. Despite the rains, water quality has not improved this year except in the Sea of Galilee
3. Desalinating water, which is inevitable. At this stage, the Commission is conducting a study of brackish water, the first in line for desalination. This water will cost less than half the price for desalinated sea water. Water for desalination is boundless, but the plan is restricted to desalinating water for household and industrial use. Other plans on the table at the Water Commission call for desalinating water at 65 cents per cubic meter for delivery from the plant

According to the plan drawn up by the Commission, offers will be tendered to private contractors for construction of the desalination plants and sale of the water produced. "The current cost of transporting a cubic meter of water to Be'er Sheva is comparable to that for desalinating it," says Zaslovsky. He will present his desalination plan next week to the Prime Minister, who also serves as Minister for Agriculture. The first glass of desalinated water could be drunk three years from now.

Farmers, who were prepared to mount the barricades on behalf of Tzemah Yishai, the previous commissioner, bear no love for Professor Zaslovsky. Zaslovsky may be a professor, farmers contend today, but he is destroying agriculture. Zaslovsky tried to cut their water quotas despite the rainy winter but was forced to retreat under pressure from his superior, Michael Degel.

[Arad] *Why did you not fight for your position?*

[Zaslovsky] I have no quarrel with the Ministry of Agriculture. It was decided that the cuts in high quality water for agriculture would be smaller than what I wanted but I preferred to accept the decision and carry it out with a minimum of harm. Agricultural production has not tailed off this year despite the cuts of last year. A special division of the Water Commission is now engaged in mapping agricultural fields so we can know which are irrigated and which are not.

[Arad] *Are you aware that water allocations are bought and sold?*

[Zaslovsky] Certainly. There is a black market for water and I am not doing anything to change the situation. Prices on the black market are approaching one NIS [new Israeli shekels] per cubic meter (as opposed to 36 agorot) and anyone who can pay does so. The situation will change the moment that there is enough water for all who request allocations.

[Arad] *Why did the agricultural lobby fight you?*

[Zaslovsky] The agricultural lobby did not fight me; it fought the quantity of water and its cost. They want 80

percent of water to be very cheap and only 20 percent very expensive. The task for us is to prevent excessive consumption of water even in a good year like this one. We need to conserve water for drier times.

[Arad] *Is it really possible to save water?*

[Zaslavsky] We can save limitless volumes of water in the coastal aquifer. Even today, the aquifer has a deficit of 750 million to 1.5 billion cubic meters.

[Arad] *Are you in favor of agricultural growth in Israel?*

[Zaslavsky] I have no doubt that Israel must produce all fresh agricultural products for daily consumption. Imported vegetables will always be more expensive than local produce, but we must reduce commodities such as wheat, cotton, and the like. The problem is that farmers are demagogic in their use.

[Arad] *Do you sometimes get the itch to chuck it all and go back to academic life?*

[Zaslavsky] When I left the Technion to become chief scientist of the Ministry of Energy, and again when I established the brain trust of the armored corps, and again when I went on to the Water Commission, everyone thought I had taken leave of my senses. So I went into public service. They were right, of course. But so long as I feel I can do something here, I will stay.

[Arad] *What if, after the elections, a new Minister for Agriculture arrives who does not get along with you?*

[Zaslavsky] Then I will really think about retirement.

Desalination Plant To Supply Water to Gaza, South Israel

EA1506200092 Tel Aviv YEDI'OT AHARONOT in Hebrew
15 Jun 92 pp 1, 19

[Report by Nurit Arad]

[Text] A water desalination plant, the first of its kind in the region, will be built in the Gaza Strip at a cost of \$250 million. It will supply drinking water to Jewish and Arab locations in the Gaza Strip and to southern Israel.

This was recently decided by Prime Minister Yitzhak Shamir, who is also the agriculture minister. The plant will initially produce 40 million cubic meters of water a year.

Shmuel Slavin, the prime minister's economic adviser, yesterday confirmed the existence of such a decision. He noted that although it was not yet clear whether the plant would be established in Gaza or near Kibbutz Ziqim, it would in any event supply water to the Gaza Strip.

To build the plant Israel will put out an international tender and the decision on the desalination method to be used will be made according to its results. "The issue is not closed," Slavin said.

Neither is it clear how the project will be financed, whether the winner would have to invest the entire sum from his own money or he would be given a state loan. The first option—

with the state pledging to buy from the builder the entire amount of water that is produced for a prearranged sum—is favored.

As said, the plant would initially produce 40 million cubic meters of desalinated water a year to be distributed as follows: 15 million cubic meters to the city of Gaza and other Arab locations in the Gaza Strip, and 25 million cubic meters to Israeli settlements in the area. The Gaza Strip would gradually consume larger amounts of water from the plant.

Although the desalination method has not yet been decided, it is already known that the plant would have its own power station, that is, an independent energy supply. The building of this power station, too, would apparently be financed by private investors.

Replying to a question, sources familiar with the issue said yesterday that the decision is in no way related to the upcoming elections and has no political bearing on the region or on future plans for the Gaza Strip. "People need unlimited amounts of water. Water will be produced and sold. Water is the element linking all the residents of the region," one source said.

It should be noted in this context that the bilateral talks with Jordan on the question of water have made more progress than the talks with other countries. The water situation in Jordan is problematic and it is the only Arab country in the region that has no water.

The long-term solution would be for Israel and Jordan to desalinate water together, the sources said. "Jordan has no access to the Mediterranean Sea, and that is why it cannot desalinate water on its own—hint, hint," the sources added.

LEBANON

Present, Future Water Needs Assessed

92W/N0533A Beirut AL-SAFIR in Arabic 3 Mar 92 p 6

[Article by 'Adnan al-Hajj: "62 Percent of Lebanon's Water Wasted Due to Lack of Guiding Plan"]

[Text] The subject of water and its regional and international ramifications is occupying the countries of the Middle East, including Lebanon, which is and will be subjected to various pressures to force it to negotiate with Israel on the subject of South Lebanon's water as part of ongoing political negotiations in the Middle East.

The subject of water was the topic of discussion at meetings of the Arab Economic and Social Council held between February 2 and 5 in Cairo. The council decided to refer the political and legal aspects of international water to the Arab League Council for appropriate action.

A report by the UN Center for Strategic and International Studies states that "water, not oil, will be the most important problem for the countries of the Middle East by the year 2000."

From a series of studies and reports on water conditions in Lebanon, one learns that the quantities of water available on

all Lebanese territory in a year of average rainfall are estimated at 4.910 billion cubic meters [m^3]. About 880 million m^3 are considered shared water, 430 million m^3 are in the al-'Asi River, 135 million m^3 are in the al-Hasbani al-Wazzani, 144 million [cubic] meters [flow] toward Syria [in] the al-Kabir River, and 175 million m^3 [flow] toward the Hulah.

Of the remaining water, estimated at 4.030 billion m^3 , approximately 390 million [m^3] appears as fresh water springs and approximately 175 million [m^3] flows outside the rivers to drain into the sea.

Lebanon's annual rainfall averages approximately 825 mm, the equivalent of 8.600 billion m^3 . The figure includes snowfall in the mountains, though no exact studies exist to determine its amount, especially for a year like the present one (1992). The amount of water wasted through evaporation and runoff in a similar year is estimated at 4.600 billion m^3 .

In contrast to the constant amounts of water available in Lebanon, the per capita demand for water is constantly increasing. In 1971, the per capita allotment was approximately 135 liters a day. According to a study by the Ministry of Hydroelectric Resources, this allotment now has declined to 75 liters a day.

Given the lack of long-distance water transport projects, this situation makes the water available in Lebanon insufficient for the needs of the Lebanese at reasonable cost. A Ministry of Hydroelectric Resources study prepared by the consultant Dr. Ziyad Hajjar indicates that in the year 2000 the per capita water requirement will reach 320 liters a day in Beirut and 250 liters in the main cities. The study shows a current drinking water requirement of about 310 million liters a year, or about 850,000 liters a day, while the amount available according to 1990 statistics was 165 million liters, for a yearly deficit of 145 million liters. Furthermore, waste in water department networks is currently estimated at between 40 and 65 percent of the water distributed in these networks. This increases the drinking water shortage to about 68 percent. One should bear in mind that the water network installations are about 30 years old.

The study indicates that Lebanon will need approximately 2.575 billion m^3 in the year 2015: 900 million liters for drinking, 1.435 billion for irrigation, and 240 million liters for industry. The amount that can be guaranteed is approximately 1.700 billion m^3 . Storage for 500 million m^3 must therefore be created.

Based on the foregoing, it is clear that the government will need a water policy to meet requirements, a policy that guarantees the ability of the system to close the deficit and that does so by obtaining water by gravity to avoid the costs of pumping. It will have to monitor and organize the digging of wells, and it will have to draft a general guiding plan to bring water to approximately 615,000 customers who draw from 19 water departments located in the provinces, in addition to 209 village water committees, most of which are not doing any work of benefit to water projects.

Furthermore, there is a shortage of human resources. Not counting the Beirut Water Office, there are approximately 1,100 employees and workers in water departments. The average [employee] age in these departments is 56, because there has been no hiring policy for many years.

There is also a shortage of technical staff. There are only about 12 engineers in all the water departments—one engineer for each 51,000 customers.

Despite Israel's rush to steal Lebanese water, especially the water of the al-Hasbani al-Wazzani, there is no comprehensive guiding plan for water in Lebanon. (Litani River water can be stolen only by occupation, since the river rises and flows into the sea on Lebanese territory.) Water legislation and regulations, most of which date to Ottoman times or the French mandate, are also defective. Finally, there is a complete lack of administrative coordination among the agencies involved in water issues.

Resources Ministry Study

Prevailing opinion is that the Ministry of Hydroelectric Resources until recently showed interest only in the subject of electricity, on the ground that the electricity crisis was greater than the water crisis. However, this state of affairs has not prevented the ministry now from drafting some studies and reports on the subject of water. What follows are the main points of Dr. Ziyad Hajjar's study, which was used by Resources Minister Muhammad Yusuf Baydun and the Council for Development and Reconstruction in reviewing the subject of water with international organizations and in loan negotiations.

Lebanon has always been known for having important water resources, although its water resources are not evenly distributed over its entire territory.

Despite all the efforts that have been made since independence to use this water, water utilization and distribution for various needs still encounter many difficulties. These multiplied during the recent years of trouble.

This has led some to believe that existing utilizable quantities of water will remain adequate if they are exploited properly. The matter is made worse by what the Israeli foe, as justification for its ambitious designs, repeats about the tremendous amount of water that flows uselessly into the sea.

However, if we look carefully at the matter, scientifically studying the useable surface and ground water and comparing it with our drinking, irrigation, and industrial needs and the future development of these needs, we find that we shall reach equilibrium between our available quantities of water and our needs in 20 years at most. We shall then be forced to search for costly other sources to meet our needs.

The current waste of water and outflow into the sea is only a temporary situation, insofar as the Lebanese state has not completed all the necessary projects to meet current and future needs for drinking and irrigation water.

Lebanon's needs in the year 2015 will reach approximately 2.200 billion m^3 a year, while usable water will be about

1.750 billion m³. The predicted cost of using a larger amount of water than this will be great.

Drinking water projects are an old story in Lebanon. If we go back to 1940, a number of areas were supplied with drinking water, including:

- Tripoli and Zgharta from Nab' Rish'in Spring;
- Al-Kurah from the water of Nab' al-Ghar Spring;
- Kasrawan and al-Matn from Nab' al-'Asal Spring;
- 'Alayh from springs near Hammana and in the cedars of Kfar Salwan;
- Bhamdun from Nab' al-Safiyat Spring and al-Baradi'ah;
- Sawfar from various springs in Jabal al-Kanisah;
- Beirut from the al-Kalb River;
- Beirut's north and south coast from 'Ayn al-Dulbah;
- Jazzin from the water of Gharibah; and
- Sidon from the springs of Kafrawah and 'Izzah.

Other communities, including Zahlah, Ihdin, Bsharri, Jubayl, Qartaba, Ghazir, al-Damur, Dayr al-Qamar, B'aqlin, al-Mukhtarab, Tyre, and 'Ayn Zhalta, were also supplied with water from various springs.

Residents of other areas had recourse to local springs and used water from the winter rains.

These projects were designed for the population of the time and on the basis of modest per capita needs.

The amounts of water available from currently used water sources are no longer enough to meet the needs of the population. Per capita needs also have increased. In its report, the (Arfad) mission estimated per capita water needs in Beirut at no less than 150 liters a day and in the other cities and countryside at approximately 125 liters a person. It estimated the development of per capita needs by the equation $150(1 + 0.016)^S$ [S=years]. This gives a 1990 per capita requirement of 25[0] liters a day in Beirut and 200 liters a day in the other cities and regions.

In view of war conditions, per capita requirements in Beirut for the year 2015, according to a study prepared for the Council for Development and Reconstruction, have been estimated at 260 liters a day. They have been estimated at 180 liters per person a day in the main cities, and at 80 liters per person a day in the countryside.

Given developing needs and a system unable to assure additional water as part of a comprehensive water policy (such a policy being lacking), the need emerges for prompt studies and future projections as part of a general water guidance plan. Such a plan should take the following factors into account:

- Obtaining water by gravity to avoid the expenses of pumping;
- Obtaining pure spring water directly from its sources;
- Monitoring and regulating well drilling and ground water use as part of a general policy;
- Preventing surface and ground water pollution; and
- Extending water purification and sterilization everywhere by building water treatment plants.

One should note that it is not enough that water be safe at its source, the spring, or the treatment plant. One must deal with the subject of water contamination in the [distribution] networks when drinking water [lines] cross waste water lines, especially when networks are old and decayed, or when they remain empty of water for long periods of time.

Distributing drinking water requires enormous efforts to insure that water reaches customers regularly and safely. These efforts begin with guaranteeing additional water sources and extend to bringing this water to customers.

Rain, Wasted Water

Lebanon's annual rainfall averages approximately 825 mm, the equivalent of 8.600 billion m³. These figures include snowfall in the mountains, though no exact studies exist to measure its amount.

The annual surface water drainage as rivers and streams is estimated at 4.300 billion m³, while 4.600 billion m³ are lost through evaporation and runoff. The remainder, estimated at over 800 million m³, is stored in the ground.

The amount of water that flows into Syria is estimated at 510 million m³ (the al-'Asi and al-Kabir Rivers); the amount flowing into Palestine at 160 million m³.

In contrast to the relatively constant amount of water available, demand is constantly increasing in terms of the daily per capita share and in terms of agricultural and industrial needs. The daily per capita water allotment in certain countries, such as Japan, Switzerland, France, and the United States, exceeds 1,000 liters a day. At the same time, conditions of water distribution in Lebanon still suffer tremendous problems, especially in the wake of destructive wartime conditions.

The situation certainly is complicated by the difficulty of transporting water long distances and because a water source, unlike a source of electricity, must be higher than the place of consumption. This makes it necessary to use pumps, which are expensive to construct and operate.

The quantities of water that can be provided in Lebanon may not be enough to satisfy all of Lebanon's needs at a reasonable cost. Rain in effect falls during a period of 80 days during the year, while drinking and industrial water is used through all months of the year, and irrigation water during the dry months.

Distributing drinking water through a network most of which was built over 30 years ago requires enormous efforts to insure that water reaches customers regularly, safely, and without contamination.

Water Needs

1. Drinking water: The amount of water (100 liters per person a day) used in designing the projects has become inadequate. Daily water rates in excess of this figure must be used today.

There are many studies related to this subject. Their recommendations for 1990 range between 150 and 200 liters per person a day outside the main cities, and between 200 and 350 liters a day in the major cities, such as the capital Beirut.

The Council for Development and Reconstruction has proposed the American company McKee Dresser Camp, which studied the drainage of waste water in all parts of the country, as shown in Table 1.

2. Industrial water: Industrial needs are currently estimated at 130 million m^3 a year, with 65 million [cubic] meters of this amount being used in the six dry months.

These needs are expected to exceed 240 million m^3 a year in coming years, with 120 million [m^3] of this amount being needed in the May-to-October dry season.

3. Irrigation water: Needs for currently irrigated areas and for between 50,000 and 75,000 hectares of new acreage are estimated at 1.400 billion m^3 in the dry months. The total irrigated area would come to about 140,000 hectares.

These areas and the needed quantities of water are distributed as shown in Table 5.

New lands under study for possible irrigation are shown in Table 6.

The total amount of water needed for irrigation comes to approximately 1.435 billion m^3 , with 950 million m^3 having to be provided during the dry months. This period extends for nine months in regions with a semiarid climate, such as the northern al-Biq'a.

The available water can meet only 47 percent of daily requirements. If we take waste in the networks into account—because of the condition of the drawing system and the connections of many houses in various places to the main lines, this waste amounts to about 40 percent—the available quantities of water hardly amount to 275,000 m^3 a day, which is only 32 percent of needs. Thus, the shortfall amounts to approximately 68 percent, or 575,000 m^3 a day currently.

Based on many studies, we think that the water available for distribution in the provinces and the 1990 shortfall in this distribution are as shown in Table 8.

Administrative Conditions

Actual responsibility for water offices belongs to the Directorate of Investment in the Ministry of Hydroelectric Resources, which is the ministry responsible for water offices and projects. The directorate receives projects implemented by the General Directorate of Equipment in the Resources Ministry and works to operate and maintain them through these offices.

Drinking water investment in Lebanon is the responsibility of 16 water offices and 3 committees working under the supervision of the Resources Ministry. An additional 209 committees responsible for certain drinking water and irrigation matters or projects were established by decision of the minister or by the director general between 1984 and 1990.

These offices were all established by ordinances. The first was the Beirut Water Office, established under Ordinance 3971 of 17 January 1951; the most recent was the Shamsin Water Office, established under Ordinance 110 of 22 June 1989.

The legal status of the boards of directors of some offices and their directors or directors general, as well as of

employees, has led to low productivity in these offices, inasmuch as it has been impossible to hire recently. The average age [of personnel] is high and technical equipment is unavailable or inadequate. Furthermore, either there are no staffs in these offices or their staffs are old.

If one compares administrative conditions according a 1971 study by the Resources Ministry with conditions shown in the present 1991 study, one sees that the condition of the technical and managerial systems has not improved. The number of engineers in all offices still does not exceed 12. They oversee the utilization of no less than 450,000 m^3 a day by approximately 615,000 customers, a ratio of one engineer for each 37,500 m^3 and for each 51,000 customers. This is what has led us to propose a model water office staff to give needed incentives to the technical apparatus of engineers and specialists.

The administrative and financial independence enjoyed by water offices caused them to lay down conditions as they thought best. There came to be many different prices for water in Lebanon. The Directorate of Investment's role therefore was strengthened to set rates on a systematic, carefully considered basis and in principle to unify the water subscription tariff among the various offices.

The transitional circumstances that led to the creation of the offices and committees having ended, and the borders of most water office investment districts having made contact with each other, a review of these offices was conducted in 1972. This was embodied in the passage of the implementing law by Ordinance 3275, mandating that the independent offices and other bodies located in various parts of Lebanon be merged and reduced to five water offices at the provincial level. Each would administer and operate all drinking water projects located in its zone.

Ordinance 4537, dated 15 December 1972, was intended to regulate the independent drinking water offices established in Ordinance 3275. It defined the tasks of the offices created in the provinces and how projects the government had established or whose franchise it had ended, as well as projects and committees existing before the law went into effect, would be transferred to the water offices of the provinces.

Section 5 of Ordinance 4517 mandated the establishment of a consultative council to be called the High Council on Water, chaired by the minister of hydroelectric resources, with the chairmen, directors general, or directors of the managing boards of the water offices, in addition to the director of the central laboratory, and the head of the sanitary engineering department in the Ministry of Public Health.

Customers, Number of Residents Benefitting

A comparison of amounts of water and numbers of customers yields the following results:

In 1971, with the exception of areas operated by the Beirut Water Office, there were 200,850 customers. The number of residents benefitting at that time is believed to have been approximately 1.3 million. At that time, more than 98 villages lacked water.

The amount of water distributed was 230,000 m³. Allowing for a 25 percent rate of waste in the networks, water serving customers amounted to 172,500 m³, making the individual share approximately 133 liters a day, which is a good figure. The lowest figure was in Mount Lebanon, where the average share of water per person was 10 liters a day; the best figure was in North Lebanon, where the individual amount of water (for subscribers only) was over 235 liters a day. In South Lebanon, the daily individual share was 157 liters. In al-Biqā' it was 175 liters. In 'Ayn al-Dulbah water district it was approximately 140 liters.

However, with the increased rate of loss in 1991, reaching 65 percent in some networks, the per capita water allotment decreased alarmingly. From 1981 to 1991 the number of customers increased to [as in source; perhaps "by" is meant] over 61,000. The amount of water distributed was 450,000 m³ a day, making the average amount per person less than 75 liters a day. Allowing for a rate of waste averaging 40 percent, the amounts of water distributed per person a day in the various provinces are as follows:

- Beirut (and 'Ayn al-Dulbah): 75 liters/day/person;
- North Lebanon: 90 liters/day/person;
- Mount Lebanon: 65 liters/day/person;
- South Lebanon: 62 liters/day/person;
- Al-Biqā': 65 liters/day/person;
- Overall average for Lebanon: 74 liters/day/person.

The number of customers has increased annually by approximately 5.8 percent, while the amount of water has increased by 3.3 percent, not taking waste into account. If one takes waste into account (25 percent in 1971, and 47 percent currently), the increase is only 1.75 percent a year.

Suggestions

The suggestions are divided into three stages:

First Stage: Immediate Actions That Must Be Taken

On the administrative level, the following immediate matters stand out:

- 1.1 Administrative boards must be appointed in offices where the term of the existing board has ended.
- 1.2 Administrative boards should be appointed for offices that are being run by committees appointed by ministerial decree.
- 1.3 Regular directors general or directors should be appointed.
- 1.4 The technical apparatus should be strengthened as part of a new staff that gives incentives to engineers and administrative technicians.
- 1.5 All committees appointed by ministerial decree or by the director general and that deal with drinking water should be incorporated into the water offices within whose geographical areas the committees are located. The same should be done for municipally managed drinking water. Yearly compensation should be paid to these municipalities.

1.6 The possible establishment of a unified committee to manage irrigation projects in the districts instead of the many currently existing committees should be studied.

On the technical level:

1.7 Existing water projects should be made operational, especially their major installations, such as spring enclosure installations, pumping and treatment plants, and main lines.

1.8 Pollution and water treatment problems should be remedied.

1.9 Statistics should be gathered for studies in the hands of the offices, and general maps for all projects managed by each office should be drawn at a scale of 1:20,000 or 1:10,000.

1.10 Equipment, requisites, and transport vehicles should be provided to the offices, and rate collection should be improved after study of the tariff. The aim should be to make water offices financially independent.

1.11 New measurements of rainfall, springs, and rivers should be made.

On the human level:

1.12 The staff at the various water offices, projects, and committees should be restored to functioning, and regular training of workers should be assured.

Second Stage: Improvement and Study of Supplementary Water Sources and Reducing Current Waste

2.1 One should proceed with studies of supplementary water sources for the major cities and population centers, for example the al-Ula—Beirut water [project], the Bsharri dam study, and other major projects. Some of these projects should be given definite priority for implementation.

2.2 Measures to alleviate waste in networks, which now reaches between 45 and 65 percent, should be studied and implemented. This will cause additional water to become available.

2.3 One should begin to study and implement ground water replenishment during the months when water is plentiful.

2.4 Studies now in the hands of offices, ministries, and other agencies should be evaluated.

2.5 There should be preparation for assuring drinking water on a common basis to the 'Ayn al-Dulbah and Beirut offices.

2.6 The Tyre and Jabal 'Amil water offices should be merged as utilization of the Wadi Jilu wells serving both areas approaches.

We Reach the Third and Last Stage of Our Suggestions

3.1 A study of the overall guiding plan for water in Lebanon should be made.

The ministry, in conjunction with the Council for Development and Reconstruction or whatever public or private administrations or agencies the ministry assigns, should make a study of the overall guiding plan for water in accordance with the following major headings:

- Gathering all water-related information and studies;
- Completing studies and compiling geological and hydrological maps on a scale of 1:20,000;
- Studying current and future water needs and sources;
- Drawing up the guiding plan for water resources, as well as establishing outlines for the crucial major projects in that plan;
- Establishing the outlines of future projects as part of general water policy, as well as computerizing available data and data sources to facilitate their use.

3.2 Priorities for studies and implementation should be set.

After the guiding plan is completed, priorities for studies should be set according to directives from the Ministry of Resources, and studies and implementation to find a radical solution for water for the next 25 years should be undertaken.

The ministry is making many contacts with international organizations and with foreign and domestic companies of the public and private sector in order to guarantee that officials and employees are qualified and trained in accordance with carefully prepared programs. This will insure that the administrative and technical situation of these offices is improved. [graphic showing locations of water offices and commissions omitted]

Table 1: Per Capita Drinking Water Needs (Liters/Person/Day)

Year	Beirut	Major Cities	Countryside
1980	200	120	70
1990	260	180	80
2000	320	250	100
2015	350	250	125

Table 5: Areas Currently Irrigated (Hectares)

Province	Surface Water	Groundwater	Total
North Lebanon	12,200	2,800	15,000
Mount Lebanon	7,300	500	7,800
South Lebanon	9,700	6,200	15,900
Al-Biqā'	18,300	10,500	28,800
Total	47,500	20,000	67,500
Water consumed	475 million m ³	200 million m ³	675 million m ³

Table 6: New Lands Under Study for Possible Irrigation

South Lebanon	Canal 800 (2 phases)	30,000 hectares
Al-Biqā'	South al-Biqā'	22,000
	al-Biqā'/al-Hirmil	6,000
North Lebanon	al-Kurah/Zgharta	7,000
	'Akkar	9,000
Total		74,000 hectares
Water needed		740 million m ³

Table 7: Water Needs in 2015 (million m³)

	Annual Need	Dry Months
Drinking water	900	450
Industry	240	120
Irrigation	1,435	1,435
Total	2,575	2,000

Table 8: Needs, Available Water, and Shortfalls (1990)

Governorate	Needs		Available Quantities		Shortage in Distributed Quantity	
	m ³ /day	million m ³ /year	m ³ /day	million m ³ /year	m ³ /day	million m ³ /year
Beirut with part of North Lebanon ('Ayn al-Dulbah)	280,000	102	180,000	66	100,000	36
North Lebanon	150,000	55	70,000	26	80,000	29
Mount Lebanon	187,500	68	85,000	31	102,500	37

Table 8: Needs, Available Water, and Shortfalls (1990) (Continued)

Governorate	Needs		Available Quantities		Shortage in Distributed Quantity	
	m ³ /day	million m ³ /year	m ³ /day	million m ³ /year	m ³ /day	million m ³ /year
South Lebanon	135,000	49	66,500	24	68,500	25
Al-Biqā'	97,500	36	48,500	18	49,000	18
Total	850,000	310	450,000	165	400,000	145

SAUDI ARABIA

Work of Kingdom's Meteorology, Environmental Network Detailed

92WN0481C Riyadh AL-RIYAD in Arabic 24 Mar 92 p 12

[Article by Salih al-Hammad: "'Meteorological, Climatological Services...Supporting Continuous Development'; Meteorological, Environmental Protection [Agency] Vital Pace-keeper Nationally, Internationally; Vast Network of Observation, Environmental Information Stations Cover All Parts of Kingdom To Support Our Developmental March; Exciting National Experiment; 20 Years of Giving"]

[Text] The Kingdom of Saudi Arabia's development in the field of meteorology is not just a modern advance, but one in keeping with the great quality and amount of attention the Kingdom gives to all aspects of development.

It is not difficult to remember the state of meteorology two or three decades ago when there was just a single station that carried out its observation tasks with the facilities of that time. Now, there are 17 automated stations operated by the National Meteorological Center in Jeddah, in addition to those located at the Kingdom's airports. This system represents an integrated network of specialized stations at a high level of quality and competence. The Meteorological and Environmental Protection Agency [MEPA] has seven climatological stations, six stations for monitoring air quality and weather conditions, four stations for marine observation. [paragraph break in original text] in addition, of course, to the tremendous number of observation stations at all of the Kingdom's air and sea ports, and automated stations installed in the airports at Riyadh, Medina, Dhahran, and Jeddah.

The National Center for Meteorology and Environmental Protection in Jeddah is responsible for operating this integrated network to observe, monitor, collect, analyze, and exchange information and for preparing scientific reports and publications.

The fields of meteorology and environmental protection in the Kingdom have continuously overflowed with growth programs, "because meteorology is intimately linked to the environment," as testified to by activities assigned to the water quality measurement laboratory and the air quality measurement laboratory where specialists are measuring the most significant environmental information concerning water and air.

First Nucleus of Meteorological Advancement

The intimate connection between quantity, quality, and the concern expended in that regard was a prominent activity in all of the comprehensive developmental outputs at the various levels.

In speaking of "meteorology" as a Saudi development activity, we find that although this kingdom is classified as a third world country, it has been able to make leaping strides towards high development figures in areas comparable to those reached by the world's most advanced countries.

We only have to remember that a single meteorological station in the eighties was the first nucleus for several advanced stations that provide positive scientific and research results in their areas of specialization within well-defined frameworks. This confirms the developmental status we have reached.

Thus, the Kingdom's participation in "World Meteorological Day" yesterday was not just a transitory event, but rather an embodiment of its achievements in this field. This is what has caused it to participate in World Day events and opportunities, for example, or through global research and studies, "a degree the Kingdom has reached in a very short time." [as published]

Global Interaction

We have been part of all global activities in economic, industrial, technological, educational, and other fields that uplift countries.

We have been able to leap to great rates in the march to contribute to development, as reflected by the development battle we are waging. Participation in World Meteorological Day is simply one form of interaction. Another form of participation is "specialization", which we recognize as present in various sectors and programs of Saudi development.

Although meteorology, for example, is just one of the scientific, research, and study channels celebrating World Meteorological Day, it should be considered the standard by which the Kingdom's concern for specialization can be viewed.

MEPA is a specialized agency concerned with meteorology and the environment, as reflected in its contribution to these two fields since it was established. Its contribution has not been confined to its local role, however. Its global participation confirms the Kingdom's role in the universal concern for environmental issues, as a country with a prominent part in protecting the marine environment in our region.

Confirmation of Status, Wealth of Participation

MEPA's celebration of World Meteorological Day is a confirmation of its participation, efforts, and part in meteorology and environmental protection, and also a confirmation of its prominent status locally, regionally, and internationally. It maintains a great wealth of specialized participation through its meteorological and environmental

activities, such as its participation in this international day and in Gulf Environment Day. The latter represents the Regional Organization for Protection of the Marine Environment [ROPME], which includes in its membership countries of the Gulf Cooperation Council [GCC].

ROPME seeks to achieve effective cooperation at the regional level to protect a shared aquatic environment.

Gulf Environment Day unquestionably constitutes annual support for the principle of increased regional cooperation in the field of environmental and natural resource protection. This day is celebrated because of the special importance that the environment and its protection from pollution has for gulf inhabitants. The marine environment is an effective element in, and a sensitive part with great impact on, the gulf environment overall. It is also a historic and traditional source due to the special importance it represents for all international regional countries, agencies, and institutions. GCC countries called for a meeting to be convened at the level of ministries and officials responsible for environmental protection to establish a political framework for joint action in this field among themselves. Their excellencies, the GCC ministers responsible for the environment, held their first meeting at GCC Secretariat headquarters in Riyadh from 2 to 3 October 1985 out of their nations' concern to establish general policies and principles and to deal with environmental problems and protection as a vital area needing attention. One cannot ignore the outstanding gargantuan effort to address the environmental damage that resulted from the Iraqi invasion of Kuwait, especially the gross crime committed by the Iraqi regime against the water and environment of the gulf by setting the oil wells on fire.

Unique Service to Aviation, Passengers

We may have spoken too long about the environment, but this is because it is an integral part of meteorology, and because the two are intimately related with each other and with human life.

Apart from the vital role that meteorology plays independently in research and studies, it has another very important aspect that touches directly on the essential service of air transportation.

The meteorology stations located at most of the Kingdom's airports are considered a MEPA service to the field of aviation and passengers.

It would be impossible to imagine completing a trip by air without knowing weather conditions and such factors as wind, wind speed, rain, clouds, lightning storms, and the like. The specialized meteorological stations at the Kingdom's airports provide detailed information about weather conditions enabling aircraft navigators to be fully informed on all weather matters pertaining to their flights. While this may appear to be an ordinary service that is supposed to be provided by meteorological stations in airports and harbors, the part they play is very big.

This has been a great advance in the field of meteorology and environmental protection. MEPA stands out for the forward looking efficiency that has brought it to advanced

stages in its field of specialization, providing its services to citizens and residents in the best manner possible.

There are other services as well. It is not unusual that MEPA, in cooperation with the Ministry of Post, Telephone, and Telegraph, would provide the unique service of making it possible to get all kinds of information about weather conditions and temperatures in the Kingdom by telephone.

Meteorological Services Support Continuous Development

The Kingdom participated with other countries of the world yesterday in celebrating World Meteorological Day, representing the anniversary on 23 March when the 1985 meteorological pact was signed and went into effect. The World Meteorological Organization regularly celebrates this occasion every year. The slogan "Meteorological and Climatological Services In Support of Continuous Development" was chosen for this year's celebration to strengthen this concept.

Vast Network for Weather Observation, Environmental Protection

It is important to note that the Kingdom has kept abreast of the tremendous scientific progress witnessed in all forms of science and meteorology to accomplish information transfer and forecasting via satellite.

At present, the Kingdom's meteorological network includes:

- Thirty-one surface observation stations,
- Eight observation stations for upper layers of the atmosphere,
- Thirteen automated surface observation stations,
- Three ground stations for receiving satellite images related to meteorology,
- Eight weather forecasting bureaus,
- Two centers for marine navigation, one at King 'Abd-al-'Aziz port at Dammam, and the other at the Islamic port of Jeddah,
- One regional center for collecting meteorological information in Jeddah, which serves the southeast Asia region, and
- One center for climate and environmental information.

These centers and stations provide information that plays an important and basic role in the study of many environmental problems and contribute to finding solutions to them.

Such problems and phenomena include climatological change and global warming, higher pollution levels resulting from increased human activity and the burning of fuel, vehicle exhaust, and factory and power plant emissions in many different parts of the world.

The twin phenomena of desertification and environmental degradation require the study and analysis of information no less important than the topics just mentioned. Efforts must be made to find appropriate solutions to limit their potential damage to mankind, nature, and wildlife, while staying abreast of development processes related to human progress and technological advancement.

All meteorological stations throughout the Kingdom welcome those wanting to learn more about the services they perform. They organize exploratory visits for students for this purpose, to alert and familiarize them with the national

mission and the scientific aspects of development services carried out by this vital agency, and its service to various national and social public affairs in its field of specialization.

As we consider our participation in World Meteorological Day a national success underpinning the developmentally advanced gains we have made, we also pause respectfully before the modern accomplishments that have made the Kingdom a nation enjoying effective development by world standards in many fields that cannot be ignored, not just in meteorology (which is our concern today), but also in terms of science, research, and agriculture. Having made a tremendous leap to uplift and build itself, the Kingdom has become a model for the world to follow.

Project Studies Impact of Development on Tarut Gulf Marine Environment

92WN0481B Jeddah AL-MADINAH in Arabic
11 Apr 92 p 2

[Article by Husayn al-Khammash: "In Study of Features of Tarut Gulf Ecosystem: Tarut Gulf Is One of the Environments Most Stressed by Urban Development, Effective Program Being Developed To Protect Fish Resources in Gulf"]

[Text] Dhahran—The Research Institute at King Fahd University of Petroleum and Minerals in Dhahran has concluded a number of programs to study the marine environment on the shores of the Red Sea and the western half of the Arabian Gulf.

These studies covered biological, chemical, and physical features of the marine environment, including sea currents, waves, and concentrations of biological life. The impact of installations on the marine environment was studied in the oil field areas of al-Saffaniyah.

The Water and Environmental Resources Administration [WERA] of the university's Research Institute recently prepared a study of environmental concerns for Saudi Aramco [Arabian-American Oil Company] indicating the most important features of the marine system of the western Arabian Gulf, as well as the potential impact that present and future local human activities and industrial development could have on the system.

WERA's director at the Research Institute, Dr. Muhammad Bakr Amin, said that the project's objective is to study features of the marine system and the impact of Saudi Aramco's activities and other development operations are having on it. The objective of the study of the bioecology of the Gulf of Tarut is to determine the relative importance of coastal communities in the gulf and to study the extent to which they affect the local marine ecosystem, especially fish resources and the impact of landfill and sewage discharge operations on them.

Dr. Amin added that the Gulf of Tarut is considered one of the marine environments most stressed by urban development, especially by landfill operations, solid waste disposal, and the impact of other discharges.

WERA's director explained that the biological study of the Gulf of Tarut covers three basic parts: A study of the distribution and spread of mangrove plants, a study of seabed aquatic plant life and sand habitats of invertebrate concentrations, and a study of the structure of fish species and equipment for fishing by bottom and coastal trawling.

The study also covered an analysis of petroleum-based hydrocarbon compounds and trace minerals in seabed deposits, aquatic plant life, sands, and mangrove plant environments.

The concentration of trace minerals in mangrove leaves and the level of nutrients in samples of gulf water were calculated, and the seasonal abundance and distribution by locality of the eggs, larvae, and fry of shrimp and fish of commercial value were measured.

The soft seabed environment in the Gulf of Tarut basically consists of aquatic plant life and sandy areas. According to Dr. Amin, the density and variation of animal life was determined, and the change in their production in these environments was observed. These creatures constitute the principal food of such marine colonies in the Gulf of Tarut as fish and types of shrimp of economic importance, while seabed plant life in the Gulf of Tarut provides a haven for the young of many commercial fish. Aquatic plant life, sands, and alluvial mud contain a great abundance and variety of animal organisms.

A difference in the density of animal and animal-like organisms was noticed in seabed samples collected during an intensive survey by 20 stations during May 1985. The aquatic plant life environment contained from 2,600 to 55,750 living organisms per meter, while the sandy environment contained from 2,030 to 24,277 live organisms per meter.

It was found that in terms of abundance and density in samples taken from aquatic plant life and sandy seabed samples, the bivalves, the gastropods, and the (multiplied) worms constituted some of the largest groups.

No fewer than 16 new species of invertebrates were identified in the seabed plant life environment in the Gulf of Tarut. The largest numbers identified by group were 265 species of multipeeds, followed by 199 species of gastropods, and 181 species of bivalves. They were all more densely concentrated in the plant life environment than in the sandy or alluvial mud environment.

In order to help develop an effective program to protect and preserve fish resources in the Gulf of Tarut, the study investigated where they originate in the Arabian Gulf.

Fish samples needed for this purpose were collected by using bottom and coastal trawler nets. Results of the study of samples collected by coastal trawling nets showed that areas of aquatic bottom plant life far offshore at Sayhat are richer in fish than the Safwa and Rahiyah area. It was also found that coastal trawling near al-Qatif, Sanabisin, Tarut Island, and Sihat produced the largest amount of shrimp because inshore areas in the Gulf of Tarut provide protection to concentrations of mangrove plants, which are rich in the nutrients many aquatic life forms need to live. Sand or mud

tidal flats in these areas provide the proper environment for the growth of water mosses and many invertebrates, which are primary sources of food for inshore fish and shrimp.

Results of the study of coastal trawling samples showed that the fewest fish were caught in the coastal environments at the entrance to the port of Dammam and near the residential area of al-Qatif. It was found that the fewest shrimp were taken near Rahimah, Safwa, and Darin, where fishing areas are close to such human settlement activities as landfill operations, excavation, fishing, and a large variety of commercial activities.

The samples collected revealed the presence of many species of fish and shrimp. Summer production was greater than that in the winter. In the Gulf of Tarut and other parts of the Arabian Gulf, reproduction and growth occurs in inshore areas during the warm months.

Dr. Amin indicated that petroleum hydrocarbon compounds are normally found in minuscule amounts in marine sediment deposits. In the sediment in the Gulf of Tarut their concentration is 0.30 parts per million, which is a slightly higher level than ordinary.

The study also showed that petroleum hydrocarbon compounds in aquatic plant life deposits were in general higher than they were in sandy areas. Analysis showed that the concentration of these materials in samples of mangrove plant deposits are higher than those in bottom sand and seabed aquatic plant life in other parts of the Gulf of Tarut.

The study included distant areas and most of the quay extending from Dammam to al-Saffaniyah. During the research, various marine measurements were made in the western Arabian Gulf, and a marine data base for the area was developed, as was a three-dimensional hydrodynamic model for forecasting pollution and natural marine events.

Related measurements were obtained by using automatic weather monitoring stations and instruments that measure and record water currents, waves, tides, water movement, temperature, salinity, conductivity, and meteorological observations in areas of importance, especially to Saudi Aramco, or those close to its installations. Measurements of water temperature, salinity, and dissolved oxygen were taken during quarterly sea trips. Bottom samples were also collected to determine sediment distribution by volume, carbon percentages, [silkiyat], and mineral content. The results of removal studies [as published] and studies of branching determined by dispersing fluorescent materials to pinpoint the movement of sea currents, and mixing processes in major bays along the coast were used, and they proved helpful in giving a clear idea of marine processes in the Arabian Gulf and in the major bays along the Saudi coastline. These studies will result in the development of a very important, comprehensive, and modern data base, especially for engineers concerned with the design of offshore installations, the movement of oil slicks, and other marine activities.

The project is important, Dr. Amin said, because the Gulf of Tarut is a significant natural resource for the Kingdom, distinguished by plentiful production, and a fertile source of

nutrition and shelter for marine life. The results of the biological studies, particularly those related to the mangroves, indicate that the ecosystem of the Gulf of Tarut is being subjected to great environmental pressures. If urban progress continues, it will lead to the disappearance of ecological conditions in the Gulf of Tarut [as published], and [this gulf] will soon be a burden, rather than a fish resource. For example, the disturbance of water flow resulting from the construction of the bridge between al-Qatif and Tarut Island could lead to severe degradation of ecological conditions in the Gulf of Tarut.

Evaluation of the impact of such activities as construction of the bridge must be done on the basis of information obtained through long-term studies such as the project supported by Saudi Aramco. The large data base resulting from this project will also be an important source of information for scientists and engineers alike. As with any technical work of this kind, the results and recommendations are usually restudied and reevaluated. In any event, the marine environmental conditions set forth in this study will provide a baseline for detailed comparisons of future conditions in the Gulf of Tarut.

One of the basic accomplishments of this project was the development of a hydrodynamic model of the Arabian Gulf with a focus on the Saudi coastline, by combining mathematical data with the practical data obtained from the present study. Other additional mathematical models were developed to describe three-dimensional hydrodynamic conditions in any area in the Gulf. This model can describe the movement and course of oil slicks or any other pollutants. These models also calculate water heights and current movements under various wind and tide conditions.

Delegation Chairman Hisham Nazir Comments on UNCED

*LD1706180292 Riyadh SPA in Arabic
1335 GMT 17 Jun 92*

[Text] Rio de Janeiro, 17 Jun (SPA)—His Excellency Hisham Nazir, the minister of petroleum and mineral resources, representative of the custodian of the two holy mosques, and chairman of the delegation of the Kingdom to the UN Conference on Environment and Development, said: "The custodian of the two holy mosques, King Fahd Bin-'Abd-al-Aziz's order to me to chair the delegation of the Kingdom to the conference was a great honor for me as one of the men who are serving the Kingdom of Saudi Arabia in all domains and everywhere, whether domestically or abroad."

In a statement he gave to the Saudi information delegation taking part in the coverage of the conference which concluded its work the day before yesterday, His Excellency added: "His Royal Highness Prince Sa'ud al-Faysal was meant to chair the Kingdom's delegation to the conference, but the slight health indisposition that has affected his highness lately prevented this, and then the custodian of the two holy mosques, may God protect him, ordered me to chair the delegation and be his representative to the conference."

He described the conference as important by all standards, attended by a large number of statesmen, and also by many representatives of international and scientific organizations and bodies, and private organizations, alongside small countries that are not members of the United Nations.

He went on to say: "From the beginning of the conference, Saudi Arabia contributed a great deal to negotiations, whether at this level [of the conference] or at that of the conferences on environment and development about which negotiations started two years ago." His excellency pointed out that there was a committee headed by His Royal Highness Prince Sultan Bin-'Abd-al-'Aziz, second deputy prime minister, minister of defense and aviation and inspector-general, which includes a number of ministers concerned with the problems of environment and development.

He pointed out that the conference had discussed a number of issues in connection with environment, including an agreement on climate, and another on biodiversity. He said: "There were also other non-binding documents such as the 21st century plan which, in fact, deals with all the oil, agriculture, water and education domains, and others."

On the stance of the Kingdom vis-a-vis the agreement on the climate, His Excellency Hisham Nazir said: "We have many objections to this agreement, and we have acquainted the world with them in the stance taken at the recent conference of Gulf Cooperation Council [GCC] foreign ministers and EEC ministers. At that time, the Kingdom of Saudi Arabia expressed its stance on the taxes [to be imposed on GCC petrochemical products in the EEC]. This agreement constitutes in fact a big danger to us if we do not express suitable reservations over it, and we have expressed suitable reservations over it."

He went on to add: "The agreement calls for a reduction in the discharge of carbon dioxide as one of the polluting gases, and we are not certain scientifically that this gas pollutes, or is the primary polluter." He went on to say: "The second reason is that the treaty consequently calls for a cut in the consumption of petroleum, and this entails several means pertaining to the consumption of petroleum such as the payment of big taxes to limit its consumption and consequently limit its sales, and this leads in the end to a decline in the income of the oil exporting countries." His Excellency added: "We want to ensure our income in such a situation, and this does not at all mean that we have no concerns in relation to the environment. The Kingdom of Saudi Arabia has made extremely big efforts related to the environment, but it aims to preserve income."

He stressed that the government of the Kingdom of Saudi Arabia will study all the possibilities available to it to compensate for this shortfall, should it happen." He referred to the spread of nuclear energy and said: "Nuclear energy is in our view the more dangerous, and its transfer to developing countries not only pollutes the air, but could lead to administrative risks resulting in disasters such as Chernobyl in the former USSR and Three Mile Island in the United States." He added: "These are the states which have produced this energy and are able to administer it. What would

happen if this energy is exported to developing countries which lack a trained workforce?"

He said: "We were demanding at least to add the word 'safe' to the export of dangerous technology of nuclear power. However, those who want to sell nuclear technology do not wish to tie it to the issue of safety and we actually see the safety of the world comes before private interests."

His excellency added: "There are many other reasons. The Kingdom of Saudi Arabia wants to see the countries of the Third World and the developing countries getting some assistance in return for the risks they are exposed to in implementing such a program. We believe that they did not come out with any affirmative pledge of getting this assistance."

His excellency the minister of petroleum and mineral resources and representative of the custodian of the two holy mosques pointed out at the conference that the assistance is the responsibility of the industrialized countries for they basically have themselves polluted the environment. The assistance amounts to nearly \$125 billion per annum at the lowest estimate.

He went on to say: "Thus far only nearly one tenth of this figure has been collected from these countries, therefore, we have our reservation on this agreement and we will present it to the government of the Kingdom of Saudi Arabia which will, no doubt, study it carefully taking directives from the custodian of the two holy mosques, King Fahd Bin-'Abd-al-'Aziz, may God protect him, then decide whether it wishes to join it or not." He pointed out that there is plenty of time to study and thoroughly examine the agreement as we have a whole year from now before us to join the agreement. He said: "There are reservations on many things in the agreement, however, the first agreement concerns us more than others."

Regarding a question about the steps that will follow the conference his excellency said: "What we feared at the beginning from an immediate joining of the agreement has actually happened, namely making us committed to provisions that we cannot implement. When the Kingdom, since it was founded, signs any agreement it abides by its implementation. It does not sign any agreement merely for public relations or to make a good appearance before the advocates of improving the environment and then [unlike those who] go back to their countries and do not implement anything of the agreement."

"The Kingdom of Saudi Arabia" he added, "when it abides it implements, and therefore we want to take enough time to study it." HE went to say: "There will be much discussion to draw the protocols, define the restrictions and the programs for execution, and entrust the countries with the various tasks, and we will be part of these negotiations and we will try as much as possible to protect the interests of the Kingdom of Saudi Arabia."

Concluding his statement, Professor Hisham Nazir expressed thanks and appreciations in the name of Custodian of the two Holy Mosques King Fahd Bin-'Abd-al-'Aziz,

to his excellency the Brazilian president and his government, and to the people of friendly Brazil for the warm reception he and the Kingdom's delegation had received as was appropriate to the position and international status of the Kingdom.

SYRIA

Commentary on Israel's Threat to Environment

JN1306143792 Damascus Syrian Arab Republic Radio
Network in Arabic 1130 GMT 13 Jun 92

[Station commentary]

[Text] Should the Earth Summit, convening in Brazil and attended by over 150 states, succeed in restoring the ecological balance to nature and human life, it will truly constitute the most significant world gathering in history.

No one is unaware of the fact that the catastrophes that have afflicted the earth and the disasters that threaten it are due to the aggressiveness and greed of certain regimes and governments, which try to impose their custodianship by force on many peoples in the world and plunder and exhaust their resources as fast as they can without taking any account of human and environmental factors.

The states that are classified as rich, industrialized nations owe their wealth and industrial prosperity to their military invasions and colonialist conquests. For years, these countries have exploited the wealth and riches of peoples and continents, without any supervision or questioning. When they had to withdraw from the colonized countries under pressure of national struggles, they imposed so-called market laws on these countries. These laws constitute flagrant theft. They buy the material at very cheap prices and then export manufactured materials at very high prices.

If we review the disasters that have befallen mankind, at head of which are wars, we find these countries responsible for all these disasters. They launched colonialist wars, and colonialist rivalry was the reason behind the two world wars. These countries founded the alien Israeli entity in a region which has always enjoyed security, stability, and ecological balance. They founded this cancerous, aggressive entity to threaten the Arab nation and prevent unity among its children, and to employ it as a policeman and a faithful protector of Western interests, particularly oil interests.

Ever since the Zionists settled in Palestine, which they usurped by force, deception, and collusion, the Middle East has lost its security, stability, and balance. It has even seen disasters and calamities, as the vice president and head of the Syrian delegation to the Rio de Janeiro's earth summit said. The Zionist invaders have expelled more than half of the Palestinian people and practiced a series of savage aggressive policies, which aimed at driving the Arabs hungry and thirsty and depriving them of land and water resources. They sealed off water wells, confiscated land, and did not hesitate to poison life. They expanded their aggressive

activity and usurped all the Palestinian territory in 1967, occupied the Syrian Golan Heights, and then southern Lebanon.

Their sins and crimes did not spare nature. They diverted water resources to their settlements and set the Arab forests and farms ablaze. Under the pretext of security, they uprooted hundreds of thousands of trees in the West Bank and southern Lebanon.

Here, we have to note a strange paradox. The Earth Summit in Rio de Janeiro is preparing to save the Amazon forests from the claws of merchants and investors who sell the wood. But who is going to save the trees of south Lebanon and the West Bank from the brutality of the Zionists? Destruction in the latter case is aimed at starvation and depriving Arabs of their livelihood, as well as the total destruction of the environment so as to make it arid and dry after it was green and alive.

The Zionists have not only destroyed ecological balance, but they have also forced the Middle East countries to devote their resources to defending themselves, instead of using these resources to achieve development, prosperity, and affluence.

If the funds devoted to defense were spent on development, the Middle East would have been an oasis of human and ecological security and stability. But nothing of this sort has been achieved. This is because the Israeli rulers are committing aggression and shelling villages, towns, and camps every day. They are pursuing Palestinians with bombs and rockets, even in their squalid tents, after having deprived them of their homeland.

The Israeli rulers, who have set up a huge arsenal of conventional, nuclear, biological, and chemical weapons, do not hesitate to threaten Arab states with using the most destructive and lethal weapons. Day after day and minute by minute they violate international law. So how can we maintain an important part of the planet Earth? And how can its ecological balance be safeguarded, while the Zionist danger threatens both man and plants?

Conclusive evidence has proven that industrialized Western nations are responsible for polluting the environment and creating the dangers that threaten the earth and its ozone layer. Conclusive evidence has also proven that industrialized Western nations are responsible for Israeli rebellion against international legitimacy and its resolutions, charters, and principles. They are therefore responsible for the consequences and woes of disasters that befall the Middle East. In the past, these nations supplied Israel with all the requirements of aggression and expansion, and their connivance today is preventing the implementation of international law in the Middle East.

Man and Earth will not know stability without real peace. Israel rejects peace and insists on aggression, expansion, and occupation. Will the Earth Summit champion international law and force the aggressors and those who encourage aggression to respect human life and the rights of nations to their homelands, territories, wealth, and the safety of their environment?

REGIONAL AFFAIRS

West's Concern Over CIS Nuclear Safety Viewed

PM1206124592 Moscow ROSSIYSKAYA GAZETA
in Russian 6 Jun 92 First Edition p 6

[Observer Sergey Demidov "Opinion" article: "Will the West Fork Out for Our Nuclear Power Stations?"]

[Text] Someone who learns from his own mistakes will not stumble twice in the same place! Particularly when that place is peaceful nuclear energy. Because the fear of taking lumps that could have a fatal outcome is too great.

But no one is safe from the potential threat of a whole bunch of apocalyptic wounds—neither the self-sufficient Yankee nor the "Kalmyk, friend of the steppe." The recent emergency, this time at the Leningrad Nuclear Power Station, was a further reminder that the threat is not a short-lived product of the predictions of the panic-stricken "egghead Cassandras" of the nuclear era—from physicists and doctors to certain politicians.

The discharge of radioactive gases from the "Chernobyl-type" reactor (all the foreign agencies emphasized this, with good reason, in their reports on the incident) demonstrated that the very acute problem of the reliability and safety of the "nuclear generators of electricity" created in the former USSR has been overshadowed for a while. The shadow is cast by nearly 30,000 former Soviet nuclear warheads, which, since the Union's death in December, have become a headache for practically the whole world.

Despite the first really serious alarm bell that went off in Chernobyl back in April 1986, there was no particular feeling of anxiety among people in the West, not to mention the East. And the question of what is to become of the two dozen nuclear installations of "very primitive" Soviet design not only on the territory of the CIS, but also in Eastern Europe (for instance, many experts regard the Kozloduy Nuclear Power Station in Bulgaria as the most dangerous) came over very faintly, if at all. Mainly from those whose job it is to deal with the "peaceful atom" in various countries and who are known as "gendarmes" of the International Atomic Energy Agency [IAEA], which is under the UN umbrella. But not from the lips of political leaders, with rare exceptions—such as during the January visit to Washington by Swedish Prime Minister Carl Bildt. But the unpleasant news from Sosnovy Bor caused a resonant echo that rumbles on beyond the Commonwealth's borders.

Serious concern, occasionally manifested as nervous anxiety (for example, the London DAILY EXPRESS urged: "Stop a second Chernobyl!"), is currently being expressed in the European states that have the Leningrad, Ignalina, Chernobyl, and Smolensk Nuclear Power Stations on their doorstep. Since, as another British paper, the FINANCIAL TIMES, stresses, although it is six years now since the Chernobyl disaster, very little indeed has so far been done to prevent it from happening again.

Henceforth, without a doubt, politicians from the West and, probably, from the East as well, in their future tours of CIS republics, will raise the issue of the "lamentable state" of

nuclear energy there with the same frequency and persistence as nuclear armaments were discussed during, for example, the U.S. secretary of state's visits to us. James Baker met a hail of criticism for the very fact that he was almost totally preoccupied with the fate of the former Union's missile megatons and their "fathers"—the nuclear scientists employed in the military-industrial complex. He had forgotten about the civilian nuclear power stations and the personnel operating them. The legislators on Capitol Hill who lent the CIS \$400 million for nuclear disarmament, but did not allocate a cent for the improvement of these stations are also coming under fire.

I believe that officials of what was the Union and is now the Russian Atomic Energy Ministry, who are past masters at keeping secrets from outsiders—not foreigners armed with spy satellites, but their own citizens—will have to withstand repeated volleys of foreign requests for information. Following the incident at Sosnovy Bor, the West, and the East as well, are hardly likely to decide to "rely," as Germany's NEUE ZEIT noted, "entirely on the wind being favorable and the radioactive clouds heading in the opposite direction."

No one fancies the prospect of stumbling in the same place a second time. So the question of measures to improve the safety of "Chernobyl-type" reactors and of the allocation of millions of dollars in emergency aid for nuclear energy in the CIS and Eastern Europe will be high on the agenda of the upcoming July meeting of the seven leading industrial states in Munich.

But is the West prepared to fork out?

RUSSIA

Danilov-Danilyan on Effect of Transitional Economy on Ecological Policy

LD1906151492 Moscow ITAR-TASS in English 1347 GMT
19 Jun 92

[By ITAR-TASS correspondent Lyubov Dunayeva]

[Text] Moscow, June 19 (TASS)—Russian Minister of the Ecology and Natural Resources Viktor Danilov-Danilyan told a news conference here today they should work to achieve the international community's recognition of the fact that countries with transitional economies are a special group of states, which includes Russia and the CIS countries.

In his opinion, the Russian ecological policy should be built with due account of this principle. Russia is ready to take ecological obligations developed states take, but with a delay, taking into account the current economic situation.

As for the Russian ecological policy, it is still difficult to speak about its successful implementation—the Russian ecological fund has a six million rouble negative balance.

The minister said Finland and Norway plan to allocate 100 million dollars to reconstruct the Severonikel Plant on the Kola Peninsula in the Russian north, which poisoned both the Russian and foreign air.

Ecology Ministry Seen as Disorganized, Ineffectual

92WN0556A Moscow ROSSISKAYA GAZETA in Russian 28 May 92 p 2

[Article by Ernst Chernyy, candidate of geographical sciences; date and place not given: "It Is Cashier and Inspector Both"]

[Text] ...During its existence, not only has the Ministry of Ecology and Natural Resources [Minekologiya] (Minister V.I. Danilov-Danilyan) failed to take shape structurally, but, as the successor to RSFSR Goskompriroda, it has also lost the functions approved by the RSFSR Council of Ministers Resolution No. 326 of 14 July 1991...

To this day, the regulations on Minekologiya and its territorial agencies have not been approved. Minekologiya is not carrying out the leadership of territorial structural subdivisions and it is not providing them with material, financial, and legal bases. In the half year since his appointment, V.I. Danilov-Danilyan has not met with the representatives of territorial committees in order to study and resolve both their, as well as the regions' problems.

The idea inherent in the Law "On Preserving the Surrounding Natural Environment" and in the ukase on creating a state nature-preservation service has found no support either in the Ministry of Ecology and Natural Resources itself, or in the Russian Federation government.

Exploiting the existing situation, the departments which use natural resources are appropriating the functions of distribution and state supervision of the use and preservation of natural resources.

They are creating various commercial structures, as a rule with the involvement of sectorial science and the monitoring and preservation agencies. They receive free access to natural resources and the uncontrolled use and export of them abroad. This greatly worsens the ecological situation and undermines regional economies.

Presumably, the assertion that state nature-preservation agencies should invariably be separate from nature-using structures, in order effectively to implement nature-preservation functions, raises no particular doubts. Such an approach is called for mainly by the different goals and tasks of nature-users and nature-preservers. The former strive, as is entirely natural, to take as much as possible, while the latter try to limit the removal of output from natural complexes to a certain optimum amount.

It would seem that such a viewpoint is axiomatic and that its implementation is quite simple. It really is simple, as long as one does not touch the interests of those who use nature, who, unfortunately, have the possibility of determining how the nature-preservation service is to exist.

It is most sensible by far to concentrate all the functions of supervising all nature-users in one special department, to require said nature-users to submit complete information about their activity, and on this basis to perform strict monitoring, being guided only by the interests of society. This concentration of supervisory functions is quite logical,

since it enables one to avoid a conflict of interests—the main cause of many failures. At the same time, there is only one entity responsible for preserving the surrounding environment, instead of many with diluted responsibility (or rather, irresponsibility) for the further deterioration of the ecological situation.

Let us see if the basic concept, which seems so clear, has been successfully realized. The ministry was created and was supposed to: preserve air basins and water resources, to preserve forests and the natural flora and fauna of the land and hydrosphere; to protect the ecological cleanliness of land resources; to be concerned with ecologically clean methods of using mineral resources; and to carry out park work.

That is how it should be, but forest resources in fact are preserved by foresters, the land—by the agroindustrial complex, the fisheries—obviously, by those who catch fish, and so on. The air (nobody directly exploits it economically) and the parks have been left for the Ministry of Ecology.

To the benefit of the former USSR Minrybkhkh [Ministry of the Fishing Industry], the functions of preserving fishery resources were removed from Goskompriroda at the end of 1991. Thus, a fairly effective Russian extra-departmental service for preserving resources was in fact eliminated. The fishing industry department has become the monopolistic protector of the fisheries.

One could ask the ideologues of nature preservation many questions: For instance, is it right for one department to protect the water in a reservoir from pollution, and while another protects the fish in it from the same pollution? In such a situation, any problem can only be solved via coordination, committees, and talks. There is no need to speak of the higher cost of such a scattered system: This is obvious.

So, who needs all this and gains from it? Not the state, of course, and not society. Perhaps there are some other, higher considerations? In our country, it happens that the departments are not serving society, but society is serving the interests of departments, and the interests of their bureaucrats turn out to be the most important. If you yourself protect that which you use and exploit, then you are always, one would think, making agreements with yourself. The cashiers, despite common sense, have been appointed supervisors of their own cash boxes. And they are not just simple, but state supervisors.

Everything has stayed the same as a decade ago, if not worse. Is this not why with increasing speed the reservoirs are being polluted, fish and animals are vanishing, and mineral resources are being depleted beyond measure? Is this not why in local areas (for instance, Magadan Oblast) they are trying to create anti-nature monopolistic enterprises for foreign hunting and fishing tourism, which include the hunting inspectorate and fish protection departments? Is this nonsense?

Try to resolve even one problem related to nature-preservation functions, and you immediately will run into a universal problem: the absence of complete, accurate, and

systematic information about processes in the natural environment. In many cases it is simply disadvantageous to the departments for such information to exist. After all, otherwise it is hard to explain why the system for gathering, accumulating, and processing industrial and biological information in the fishing industry system, well-established over a span of two decades, has been dismantled. In fact, this has also blocked the possibility of generating accurate statistics on fishing.

Information in other nature-preservation structures, except for the hydrometeorological complex, is in a rudimentary state. The information problem will not be solved until all nature-preservation functions are combined in one responsible state agency. Yet a great deal must be done even in the area of ecological information alone. In short, we must create the monitoring of the ecological situation in the country. Everything else derives from this problem. We must solve the very complex problem of creating a Russian center for ecological data, which would concentrate data on the atmosphere and water, soils and forest resources, minerals and their use, the living resources of the land and hydrosphere, and data on catastrophic natural phenomena.

This is a very expensive undertaking. Therefore, the already-existing systems for gathering information should be used to the utmost, having placed additional functions on them and having transferred them to the nature-preservation department.

In order to begin this work, however, we must solve the cardinal problem of removing all nature-preservation functions and services from all nature-using departments without exception (in most cases against their wishes), concentrating them into one nature-preservation department with responsibility for the condition of Russia's natural complexes.

Desertified forests and seas and infertile land are the result of the completely unworkable departmental concept of nature-preservation that has guided us for decades. We must decisively put an end to this absurdity in preserving the natural environment, in which the fox is left to guard the henhouse. Then, possibly, our descendants will be able to use the abundant gifts of nature.

FROM THE EDITORS: Representatives of Far Eastern committees on ecology and the natural environment, who came to the capital in order personally to deliver an appeal to B. Yeltsin and R. Khasbulatov, have departed. They did not manage to meet with Yeltsin and Khasbulatov "themselves," but the document has gone through their offices. It is not ruled out that some day it will reach the addressees.

Gorbachev To Chair International Green Cross

LD0706163592 Moscow Radio Rossii Network in Russian
0100 GMT 7 Jun 92

[Text] A letter from Mikhail Gorbachev was read out on Saturday at an alternative nongovernmental conference on nature protection taking place in Rio de Janeiro. This conference is working parallel with the UN World Ecological Forum. In his message, the former USSR leader agreed to a proposal that he take up a post of chairman of the new

ecological organization—the International Green Cross. He proposed setting up the organization way back in 1990.

Gorbachev calls upon the world community to render assistance to Russia in improving its ecological situation. It is impossible to resolve global ecological problems without improving the environment on such a large territory as Russia, he stresses.

Presidential Ecology Adviser on Past Need for Secrecy

LD1506082292 Moscow Russian Television Network
in Russian 1800 GMT 13 Jun 92

[Remarks made during interview with Aleksey Yablokov, adviser to Russian President Boris Yeltsin on ecology, by unidentified correspondent, date and place not given; from the "Top Secret" program—recorded]

[Excerpt] Secrecy in the sphere of ecology used to be the norm. But from the ecological point of view it is immoral to suppress information which has an effect on our health, an effect on our lives, and this runs counter to the declaration on human rights.

I have just come back from a trip with Boris Nikolayevich Yeltsin to Altay Kray. Why did I insist—and Yeltsin agreed—that an adviser on ecology should accompany him on this trip? We know that there are ecological problems in the area. I knew about these problems before. While I was there I studied documents which attracted the president's attention. He has already spoken about this—that was a few days ago—but I will still repeat it because it amazed me. In one of the reports that we have now obtained, on radiation contamination of the territory, it emerges that in 1949 and 1950, and in the early 1960's, when explosions were carried out at the Semipalatinsk test site, it was made a condition to choose such weather conditions so that the radioactive cloud would not drift over Kurchatov, that is, over the settlement where the testers themselves lived, that it should not drift over Semipalatinsk, and that it should be kept within the borders of the Soviet Union. That is, it was directed in such a way—there is simply no other way, it won't travel north—it was directed straight to Altay and Barnaul and all the rest.

I can say with satisfaction that on learning about this, Yeltsin declared this a crime, and that it be revealed who signed these instructions, and if there is anyone still living then criminal proceedings should be brought. We have been striving for a long time for liability to be unlimited in duration for crimes of this kind, and for it to be placed on the same footing as crimes against humanity, which have no statutory limitation.

All this plus the immense secrecy which surrounded all radiation issues, because it is linked with the military industrial complex. Do not forget, even atomic power stations—why are they so developed here? Because they are linked with the military industrial complex. It is a link in the chain of creating nuclear weapons, that is the only view you can take of it. Just recently data came to light on incredible radiation contamination of the Yenisey. We knew that there

were closed factories producing plutonium near the Yenisey, near Krasnoyarsk. We learned recently that two of the three reactors were operating on parallel flow, that is, they were taking water from the Yenisey and throwing it back into the Yenisey. This is prohibited by all imaginable current instructions. The factories were built a long time ago, 30 or 40 years ago. A decision has now been made by the State Committee for Nuclear Safety to close these two reactors.

But what damage have these two reactors done? For hundreds of kilometers along the Yenisey below Krasnoyarsk, the radiation contamination is in places higher than in the most dangerous regions of Chernobyl, up to 160 curies per square kilometer. That is incredible radiation. These are small patches, of course, perhaps 100 square meters, where there is no contamination, but this information is secret from the people who live there.

There are secret dumps near Moscow and in Moscow. I was told a story, almost a detective story, when the managers of enterprises...[changes thought] It is difficult to get rid of particularly dangerous toxic waste, you have to pay a lot of money to have it sealed in some kind of concrete receptacles and taken to dumps or elsewhere. It is thrown away as though it were industrial refuse. When they [not further identified] tried to investigate it, they came up against a kind of organized mafia which deals with this, at a price, and prevents the inspectors from getting to the dumps. This was going on when I was adviser to the president for ecology. [passage omitted: role of former Soviet regime in damaging the environment]

Rutskoy Emphasizes Importance of Environment Summit

LD1406083992 Moscow *ITAR-TASS in English* 0750 GMT 14 Jun 92

[By *ITAR-TASS* special correspondent Andrey Kurguzov]

[Text] Rio de Janeiro June 14 (TASS)—The holding of the UN Conference on the Environment and Development in Rio de Janeiro is so timely that it would be senseless [as received] in 10-15 years' time, Vice-President Aleksandr Rutskoy of the Russian Federation told *ITAR-TASS*.

The forum in Rio de Janeiro has proved that it is essential for mankind to proceed ahead, taking into account the exhaustive analysis of the alarming ecological situation, Rutskoy said.

"Environmental pollution makes it incumbent upon us to take urgent measures to monitor the ecological situation, right up to criminal liability. However, with this end in view, monitoring mechanisms and sanctions for breaches of nature conservation standards should be worked out.

"It is essential to fully revise the legislative basis and the Russian law on environmental protection, and to make provision for a financial backing so that the documents that we have signed would not remain mere declarations," Rutskoy said.

Touching upon the stand of some states of the former Soviet Union at the forum in Rio de Janeiro, Rutskoy emphasised

the need for the pursuance of a tougher policy with regard to the ex-Soviet republics which now accuse Russia of the deterioration of their national ecological situation by pleading the presence of CIS Army units on their territories.

Such statements run counter to reality, since these countries have been developing to the detriment of Russia's well-being, the Russian vice-president emphasised.

Yeltsin Orders Preparation of Chemical Weapons Destruction Proposal

OW1606142792 Moscow *INTERFAX in English* 1251 GMT 16 Jun 92

[Following item transmitted via KYODO]

[Text] Boris Yeltsin has authorized his Presidential Committee for Conventions on Chemical and Biological Weapons together with the pertinent ministries and departments to submit within two months proposals to the government on stage-by-stage creation of facilities for destroying chemical weapons. Those proposals should include the technical, material, financial aspects of the work and the necessary personnel.

According to his decree "On Priority Measures for Implementing Russia's Obligations in Destroying Chemical Weapons Stockpiles" offers some benefits and perks to people working in this field in their wages, pensions, social and medical services.

The decree provides for setting up diagnostic centres for regular examination of such personnel and those resident within 15km zone round the facilities, also an information and monitoring system in that zone.

Russians 'Deceived' on Extent of Chernobyl Fallout

92WN0556B Moscow *TRUD in Russian* 28 May 92 p 3

[Article by S. Troitskiy, advisor to Goskomchernobyl of Russia, participant in eliminating the consequences of the accident at the Chernobyl AES; date and place not given: "You Cannot Hide Disaster in the Archives. Russians Hit by Chernobyl Catastrophe Deceived for Six Years"]

[Text] Fate has happened such that two years after the nuclear catastrophe, now known to the whole world, I happened to live and work in Chernobyl itself. I worked to collect and process information about the accident and published a newspaper in this zone, fenced off from unauthorized persons.

I managed to learn a great deal. Gradually, many newspaper and magazine pages are increasingly saturated with pain for the fate of the people, villages, and settlements of the Ukraine and Byelarus. However, things turned out strangely. Being a native Russian, I knew virtually nothing about the calamity that the nuclear reactor explosion had brought down on my own republic. As I now recall, it was as though I had overheard something, but on my desk there were neither reports, nor publications, nor the decisions of

the Union government commission on eliminating the consequences of the Chernobyl AES [nuclear electric power plant] accident in Russia's territory.

The first map of Bryansk Oblast marking the levels of contamination only appeared in the newspaper BRYANSKIY RABOCHIY four years after the accident. The "breakthrough" of this article was a whole epic. The editors had to send a letter to V.A. Boldyrev, head of the Main Administration on Keeping Secrets in the Press. Here are its contents:

"After the Chernobyl accident, government resolutions were passed on eliminating its consequences in the territory of the RSFSR and in Bryansk Oblast specifically. To this day, the oblast newspaper BRYANSKIY RABOCHIY has not been allowed to write about this, as though there were no contamination whatsoever and no work at all related to eliminating the consequences was being done. Who dictated this ban? It is not good for the people and it undermines trust in the newspaper." January 1989.

The "Interview on the Readers' Request" only appeared in this newspaper in the 27 June 1986 issue. In it, oblast officials write: "In all the rayons, except Krasnogorskiy, Novozybkovskiy, Gordeyevskiy, Klimovskiy, and Klints-ovskiy, the radiation situation is in practice close to the natural background... However, in the named western rayons a certain increase in the background is observed, not everywhere, but in separate settlements."

However, we will not reproach the authors too much. Censorship would not have allowed them to say more. Indeed, it is not just censorship. The newspapers of these rayons tried to report something to the people and did give recommendations on protection from radiation. However, all this was against the background of the specialists' statements: "Do not listen to gloomy rumors, get a grip on yourself, and live a calm and full life."

Yet what in fact did happen? One document in the archives of the RSFSR Council of Ministers greatly surprised me last year. It was a decision on the organization of a Russian governmental commission in connection with the Chernobyl accident, which was stamped "Top Secret." It turned out that this document, giving the names of persons to whom regulation of the situation had been entrusted, headed by the first deputy chairman of the republic Council of Ministers, had not yet been declassified. Perhaps this was a organizational oversight, or perhaps it was an attempt to hide those who bore personal responsibility for the Chernobyl fate of Russian territories in the initial, most critical period?

I happened to talk with many people, related to this story, and I have read a great deal. In every case, I felt as though the information was incomplete. Then, quite recently, a curious document fell into my hands. It is the most honest and frank of those, that I had read before: "The Report of V.P. Malakhov on Participation in Work to Eliminate the Consequences of the Chernobyl Catastrophe in 1986."

At that time Viktor Petrovich, a radiology specialist, was deputy head of the department for health care and social

support under the RSFSR Council of Ministers Administration of Affairs. On 12 May, when the residents of the Bryansk area were enthusiastically helping stricken Chernobyl, he was sent to the city of Plavsk in Tula Oblast. The radiation levels there were extraordinarily high—from 1000 to 3500 microRoentgen/hour [mR/hr]. Extreme measures were required to protect the population. What surprised Malakhov? Neither a dosimetric nor a medical study of the population had been carried out, nor had preventative measures against radioactive iodine. There was no monitoring of the content of radioactive substances in the water, milk, soil, and fodder.

A large number of the dosimetric and radiometric instruments were defective, failed the tests and calibration, or had no fuel elements. Indeed, the personnel who performed the measurements did not have practical skills with modern radiometric methods.

To be more specific, testing in the contaminated territory for radioactive substances in water was done at only two out of 82 farms. The data obtained by the specialists who were sent showed a content of radioactive iodine-131 above the maximum permitted level precisely in the water. The local health care agencies did not monitor the people, coming from the afflicted rayons of the Ukraine and Byelarus in the hope of finding "radiation well-being" in the Tula area.

The monitoring and decontamination of means of transport was done irresponsibly. Thus, the radioactive contamination boundaries of the territory themselves were also not defined. In general, extreme measures had to be taken to introduce order. However, this was almost half a month after the settling of radioactive fallout, when the radioactive iodine is so dangerous to the human thyroid gland.

However, Tula Oblast was just the "flower." The "berries" nonetheless grew in Bryansk Oblast, where Malakhov visited on 27 August 1986. He worked in Krasnogorskiy and Novozybkovskiy rayons, where 19 settlements were found to have high levels of contamination with radioactive substances. In Krasnogorskiy Rayon the map looked extremely depressing. Here, a build-up of cesium-137 above 40 curies per square kilometer (this is already mandatory evacuation) was measured in ten settlements. The radiation background there on 27 August 1986 was from 60 to 100 mR/hr (exceeding the natural background by a factor of from 3 to 50), including in Nikolayevka—1000 mR/hr, in Bukovets—800 mR/hr, and in Zaborye—900 mR/hr.

Milk was tested at Zaborye village. In 42 out of 50 samples the concentration of cesium-137 exceeded maximum permitted levels by a factor of over 8. In Nikolayevka village, 32 out of 40 samples of milk contained the same cesium above the permitted level by a factor of 6-10. In the most contaminated settlements, no trade in pure food products, such as sausage and meat, was found anywhere. When the content of radioactive substances in people's bodies was tested with special instruments which had been brought in, 10 percent of the 2,000 residents in Krasnogorskiy Rayon had already ingested radioactive substances above the norm. A large share of indicators were at the edge of the limits.

By that time, many of the similar villages and settlements of the Ukraine and Byelarus had already been evacuated or prepared for this. Malakhov and his colleagues were unable to make organized decisions on this order. They only informed the RSFSR government. All the data indicate that it was urgently necessary, in the first place, to evacuate the population of Zaborye and Nikolayevka villages. However, they are heavily populated. In the latter, for instance, there were 472 people, of whom 180 were children, including 67 preschoolers. Nevertheless, the government decided to maintain an appearance of concern for people. Instead of the 180 children of Nikolayevka, however, four settlements where 186 people lived were evacuated.

Today, when it is clear that 15,000 people from 67 settlements in Bryansk Oblast are subject to mandatory evacuation, the earlier decision on protective measures can be regarded as blatant irresponsibility. After all, to this day they cannot evacuate Zaborye.

These tragic facts lead to very sad thoughts. A little over a year later in Russia, the last of the three stricken republics, they created the State Committee On Eliminating the Consequences of the Chernobyl AES Accident. They created for the sake of creating. For several months, its associates received no salary. It was impossible to hire a staff. For nearly a year, the committee was located in one small hall in the White House. Later, premises were allocated at Staraya Ploshchad [Old Square], but the committee was even "evacuated" from there.

Despite the fact that the former RSFSR Council of Ministers hid the alarming notes of V. Malakhov, secrets eventually become obvious all the same. It is not just the true scales of the Russian radiation disaster that are obvious. It is also obvious that we have tricked our people on this subject more than sufficiently. Mostly likely, enough is enough.

Far East Hydroelectric Projects Stagnate, Nuclear Plant Progressing

PM0806135792 Moscow IZVESTIYA in Russian 5 Jun 92 Morning Edition p 2

[Boris Reznik report: "Construction of Bureya GES's Halted"]

[Text] Khabarovsk—More than 1,000 construction workers at the Bureyskaya and Nizhnebureyskaya GES's [hydroelectric power stations] have been sent on compulsory unpaid leave. This has been caused by the ending of financing for the construction projects.

The Bureya GES's have been under construction for more than 15 years, but no end to the work is in sight. There is a chronic shortage of funds and material resources.

L. Kaulin, chief of the "Zeyagesstroy" Construction Administration—the subunit building the Bureya GES's—has been unsuccessfully doing the rounds of Moscow's corridors of power for days on end. The government cannot "make provision for the centralized allocation of material resources and financing in line with the document" which he has been taking from office to office. The government has no money, no resources.

What is to be done? What should we do with these projects and their thousands-strong collectives?

The project requires unique hydraulic, mechanical, and electronic equipment which was previously produced by enterprises in the former Union republics. Now all contacts have been disrupted.

We can understand the parlous state of the Russian economy and the difficulties of a government torn between highly important economic sectors requiring "priority financing." But how can we understand and explain that, having essentially left the construction of the Bureya GES's in the Far East to the whim of fate, the construction of a... nuclear power station is going ahead? This project, near Lake Evoron, is proceeding at full speed.

The idea to build the AES [nuclear electric power station] cannot be called serious. It emerged during Gorbachev's tour of the Far East in the summer of 1986, when it was decided to hastily draw up a grandiose program for the economic and social transformation of the region to the year 2000. The program presupposed no less than threefold growth in industrial production—which would naturally require a manyfold increase in power generating capacity.

Without managing to "win over the masses," the Far Eastern program died, but the idea of building the AES survived. It is being actively propagandized by representatives of the Ministry of Nuclear Power Generation, which has considerable "spare" construction capacity. But they dodge the following question—if industrial potential in the Far East fails to triple, and provided that we hang on to the industry we already have, why press on with construction of an AES costing several tens of billions of rubles? Particularly if the capacity of the Bureya GES' is ample to defuse the crisis and provide the region with stable and cheap supplies of electricity for decades to come.

'Mayak' Military Facility's Waste Irradiated 500,000

OW0706133192 Tokyo KYODO in English 1307 GMT 7 Jun 92

[Text] Moscow, June 7 (KYODO)—Nuclear waste discharges from a Russian military facility from 1949 to 1967 irradiated half a million people, according to a report by Russian experts.

The planned and accidental discharges from the Mayak facility in the southern Urals dispersed 150 million curies of radiation into the environment, "apparently...higher than the quantities discharged in Hiroshima and Chernobyl," says the report obtained Sunday by KYODO NEWS SERVICE.

The "small but constant acting doses of irradiation" the residents received have "not existed anywhere in the world," says the report by experts at the Institute of Biophysics of the former Soviet Ministry of Health in Chelyabinsk, western Russia.

The report, based on 40 years of investigation, is to be published soon in the British journal NATURE.

It says 28,000 people were "severely irradiated" and 8,015 died over a 32-year observation period as a result of the discharges.

The 37 observed cases of leukemia "significantly exceeded" the number one would statistically expect in a similar population, the report says.

Medical studies performed several years after people were irradiated were "under-equipped, under-staffed," and "discouraged by the government," it says, adding that many of the 270,000 people irradiated in a 1957 accident remain untreated.

Radioactive wastes from the Mayak facility some 100 kilometers northwest of Chelyabinsk contaminated some 26,700 square kilometers covering Russia's Chelyabinsk, Sverdlovsk, and Tyumensk Provinces, resulting in "the medical consequences of the irradiation of about half a million residents of this area," the report says.

The facility, built in 1948 to produce plutonium, the basic component of nuclear weapons, concentrated and stored highly radioactive wastes in specially equipped containers while disposing of less active wastes in such open areas as a nearby river or lake, according to the report.

Accounts of experts with access to Mayak's records and other information show "repeated 'planned' discharges of radioactivity into the Techa River and the environment," the report says.

Also, it says, "many unexpected, so-called 'wild overflows' and breakdown situations" occurred at the Mayak facility.

"In all, beginning in 1949, no less than 150 million curies of radioactive substances were discharged into the environment as a result of Mayak's activity," the report quotes an official of the supreme council subcommittee on nuclear energetics and nuclear ecology as saying.

The report says 76 million cubic meters of liquid radioactive waste with a total radioactivity of 2.75 million curies was discharged from 1949 to 1956 into the Techa—"the major, and in certain places, the only source of drinking water for the residents."

Nearly 95 percent of that radiation entered the river between March 1950 and November 1951, the report says.

The average daily release during the period was 4,300 curies but it reached 100,000 curies on some days. The discharges caused increased levels of irradiation in 124,000 people, it says.

In the September 1957 case, a container of highly radioactive liquid waste exploded from overheating, discharging close to 20 million curies of radioactive compounds into the environment, the report says.

Nearly 18 million curies of the fallout "settled in close proximity to the depository," while the other 2 million curies dispersed over 23,000 square kilometers encompassing the three provinces.

About 10,200 of the area's 272,000 residents were relocated from the most highly contaminated regions, the report says.

From April 10 to May 15, 1967, "dust particles of radioactive matter" amounting to 600 curies were carried by the wind from the shores of the "gradually evaporating" lake Karachay, used to dispose of Mayak's liquid radioactive waste, according to the report.

The material dispersed as far as 76 kilometers from the lake, covering 2,700 square kilometers where 41,5000 people lived, the report says.

Government Approves Program To Investigate Radiation Levels

LD1106160492 Moscow ITAR-TASS World Service in Russian 1234 GMT 10 Jun 92

[By ITAR-TASS correspondent Lyubov Dunayeva]

[Text] Moscow, 10 Jun—A work program for additional investigation of radiation levels on the territory of Russia has been approved by an order of the government of the Russian Federation. It entails compiling maps of radioactive pollution on the territory of Russia and finding and decontaminating polluted areas in towns, industrial centers, and popular vacation spots.

The document also envisages the compilation of a priority list of districts and populated areas for investigation, the elaboration of uniform requirements to monitor the effectiveness of decontamination, a number of other measures to rehabilitate areas with high levels of radiation pollution, and the salvage of materials polluted by radioactivity.

The work will be financed by the Russian Ministry of Finance. The order was signed by Yegor Gaydar, first deputy chairman of the Russian Government.

Nuclear Power Plant To Be Built on Kola Peninsula

LD1406193992 Moscow Russian Television Network in Russian 1600 GMT 11 Jun 92

[From the "Vesti" newscast]

[Text] The Presidium of the Russian Academy of Sciences has published a report which says that nine nuclear power stations on the territory of our Commonwealth are dangerous and need to be shut down. However, according to a statement in Rio de Janeiro by Mr. Jacques Attali, 60 Soviet-made reactors present a danger; 16 of these are of the Chernobyl type in Russia, Lithuania, and Ukraine, and 44 are in other countries.

Last month, Finnish experts visited the nuclear power plant on the Kola Peninsula and came to the conclusion that, although accident prevention measures there are not of a sufficiently high standard, radiation in the area was not heightened. Evidently encouraged by this, the Russian authorities have decided, according to a report from Radio Finland today, to start construction of a new nuclear power station on the Kola Peninsula close to the border with Finland.

Academicians Urge Decommissioning of Reactors

PM1206202192 Moscow KOMSOMOLSKAYA PRAVDA in Russian 12 Jun 92 p 2

[K. Belyaninov report: "Academy of Sciences 'Goes Green'"]

[Text] Public opinion has long since suspected that nuclear power stations figure next in the list of Russia's perennial nuisances after interethnic conflicts, economic reforms, and price rises on vodka. And last week a group of experts from the Academy of Sciences and the State Committee for the Supervision of Nuclear and Radiation Safety at last subscribed to this conclusion, proposing that first-generation nuclear reactors of the high-power pressure-tube and water-cooled type should be decommissioned ahead of schedule. The experts believe that economic benefit from their operation cannot be traded off against their potential danger. The group proposed shutting down the third and fourth units of the Novovoronezh AES [nuclear electric power station], the first and second units of the Kolsk, Kursk, and Leningrad AES's, and the first, second, and third units of the Smolensk AES.

"First generation reactors really need to be decommissioned," Academician Yevgeniy Velikhov, vice president of the Russian Academy of Sciences says. "It is too expensive to modernize them, or even somehow improve their safety."

The Russian Academy of Sciences Presidium, while agreeing with the conclusions of the group of experts, believes that there can be no question of the immediate decommissioning of all the units: Despite the existence of the Unified Power Generation System, a very severe power shortage would inevitably arise if the stations were shut down.

"The power losses will have to be compensated for locally, replacing the nuclear power station shut down in each oblast with a thermal or hydroelectric station," Velikhov says. "But right now this is impossible. That is why we have proposed, firstly to complete the construction of new-generation reactors of the water-cooled type, and switch to the construction of nuclear heat-supply stations. And secondly, the power losses can be partially compensated for by gas turbine stations. Gas will for the time being remain the only cheap, long-term fuel, and the aviation industry is prepared to take on the production of turbines."

The Russian Ministry for Atomic Energy remains dissatisfied with the Russian Academy of Science's conclusions. Ministry experts claim that the reactors are entirely safe, and shutting them down threatens losses in the order of \$642 billion. The calculations of scientists, even including members of the Russian Academy of Sciences, have always been viewed in Russia [merely] as recommendations.

Ukase on Protection of Natural Resources Issued

925D0456A Moscow ROSSIYSKIYE VESTI in Russian No 14, 29 May 92 p 3

[Text of "Ukase of the Russian Federation President 'On Protection of the Natural Resources of Territorial Waters, the Continental Shelf, and the Economic Zone of the Russian Federation'"]

[Text] With the aim of preserving and efficiently utilizing the natural resources of territorial waters, the continental shelf, and the economic zone of the Russian Federation, of fulfilling the requirements of existing legislation, and bearing in mind that the natural resources of territorial waters, the continental shelf, and the economic zone of the Russian Federation belong exclusively to federal assets, I decree:

1. To establish that exercise of the right to dispose of the natural resources of territorial waters, the continental shelf, and the economic zone of the Russian Federation, and of rights regarding the protection and use outside the Russian Federation economic zone of reserves of anadromous varieties of fish which originate in Russian rivers, lies within the jurisdiction of the Russian Federation Government and governmental organs specially empowered by it to this end, which issue authorization in accordance with established procedure for the use of these resources by concerned juridical and physical persons, while taking into account without fail the economic interests of peoples small in number residing in territories adjacent to the seacoast of the Russian Federation.

The disposition of state wealth in the depths of the earth within the bounds of territorial waters (the territorial sea) is exercised by the Russian Federation Government and governmental organs specially empowered by it to this end, jointly with the republics within the Russian Federation, krais, oblasts, and autonomous formations.

2. To consider as intolerable the unauthorized disposition of natural resources of territorial waters, the continental shelf, and the economic zone of the Russian Federation by organs of executive power of republics within the Russian Federation, krais, oblasts, and autonomous formations, as well as by organs of local self-government within whose jurisdiction are territories adjacent to the seacoast of the Russian Federation.

3. That the Ministry of Ecology and Natural Resources of the Russian Federation, Russian Federation Ministry of Agriculture, Committee on Geology and Exploitation of the Depths of the Earth of the Russian Federation Government, and the Committee on Guarding the State Border will ensure protection of the natural resources of territorial waters, the continental shelf, and the economic zone of the Russian Federation in accordance with the demands of existing legislation and of this ukase, and will terminate the unauthorized use of these natural resources in timely and decisive fashion.

4. That the Russian Federation Ministry of Foreign Affairs will conduct, with participation by the Ministry of Ecology and Natural Resources of the Russian Federation, Russian Federation Ministry of Agriculture, Committee on Geology and Exploitation of the Depths of the Earth of the Russian Federation Government, Russian Federation Ministry of Defense, and Committee on Guarding the State Border, negotiations with neighboring states on the question of delineation of territorial waters, the continental shelf, and economic zones.

5. That the Ministry of Ecology and Natural Resources of the Russian Federation, Russian Federation Ministry of Foreign Affairs, Russian Federation Ministry of Agriculture, Russian Federation Ministry of Transportation, Committee on Geology and Exploitation of the Depths of the Earth of the Russian Federation Government, and Russian Federation Justice Ministry, with participation by the Committee on Guarding the State Border, will develop and present prior to 1 July 1992:

—draft laws on the continental shelf and economic zone of the Russian Federation;

—draft acts under the law which regulate procedure for the protection and exploitation of natural resources, the accomplishment of scientific research within the bounds of the continental shelf and economic zone of the Russian Federation, the protection and use outside the Russian Federation economic zone of reserves of anadromous varieties of fish originating in Russian rivers, as well as state supervision of activity in this sphere.

6. This ukase enters into force from the moment of its signing.

[Signed] B. Yeltsin, president of the Russian Federation
Moscow, the Kremlin
5 May 1992
No. 436

Government Approves Plan for Phosphate Fertilizer Production, Export

92WN0605B Moscow ROSSIYSKIYE VESTI in Russian
No 18, 12 Jun 92 p 3

[Order No. 970-r of the Government of the Russian Federation dated 28 May 1992, Moscow]

[Text] In order to maintain production of phosphate fertilizers in the Belorechenskiy Minudobreniya Production Association and to promote solution of ecological problems associated with recycling phosphogypsum waste and with using it to produce construction materials, cement additives and land improving agents for agriculture:

1. The proposal of the Belorechenskiy Minudobreniya Production Association to create, in 1992-1995, operations processing 1.28 million tons of phosphogypsum annually at a cost of 100 million German marks under the conditions of hard-currency self-financing, use of production procedures of foreign companies and full supply of equipment by these companies shall be approved.

2. In coordination with the Russian Ministry of Agriculture and the Russian Agrochemical Company, the Russian Ministry of Industry shall establish, in 1992, an export quota (expressed in natural terms) of 90,000 tons of ammophos, 40,000 tons of liquid combined fertilizer and 60,000 tons of tricalcium phosphate for the Belorechenskiy Minudobreniya Production Association.

The Russian Ministry of Industry and the Russian Ministry of Foreign Economic Relations shall foresee, in 1993-1995, export of mineral fertilizers by the indicated association in

an amount necessary to compensate for hard currency expenditures to create the phosphogypsum processing operations.

3. Regarding export of the products foreseen in Paragraph 2 of this order in 1992 by way of the Belor Joint-Stock Company, the Belorechenskiy Minudobreniya Production Association:

shall be granted the right to use 38 percent of hard currency income subject to mandatory sale to the Russian Federation's Republic Currency Reserve to create the phosphogypsum processing operations.

shall have an export duty on these products amounting to 20 percent of the existing standards established for it

4. Control over fulfillment of this order shall be imposed on the Russian Ministry of Finances

5. Jointly with the Belorechenskiy Minudobreniya Production Association the Russian Ministry of Foreign Economic Relations (the Tekhmashimport Foreign Economic Association) shall conduct negotiations with foreign companies with the purpose of signing a contract for delivery of equipment to this association, to be paid for in foreign currency obtained from the chemical product exports foreseen in Paragraph 2 of this order.

[Signed] First Deputy Chairman of the Government of the Russian Federation Ye. Gaydar

Paanayarvi National Park To Be Created in Karelia

92WN0605A Moscow ROSSIYSKIYE VESTI in Russian
No 18, 12 Jun 92 p 4

[Resolution No. 331 of the Government of the Russian Federation dated 20 May 1992, Moscow, "On Creation of Paanayarvi National Park of the Russian Federation Ministry of Ecology and Natural Resources in the Karelian Republic"]

[Text] In order to preserve the unique natural complexes of Lake Paanayarvi and the Olangi River basin and use them for nature protection, recreational, educational and scientific purposes, the Government of the Russian Federation resolves:

1. To adopt the proposal of the Karelian Republic Council of Ministers, coordinated with the Russian Federation Ministry of the Economy and the Russian Federation Ministry of Ecology and Natural Resources:

to create Paanayarvi National Park of the Russian Federation Ministry of Ecology and Natural Resources with a total area of 103,300 hectares;

to place 103,300 hectares of land belonging to the Pyaozerskiy Forest Ranger Station of the Pyaozerskiy Integrated Logging-Lumber Enterprise at the disposal of Paanayarvi National Park.

2. That the Karelian Republic Council of Ministers shall: examine the question of allocating a cutting area outside Paanayarvi National Park to the Pyaozerskiy Integrated

Logging-Lumber Enterprise and completing construction of the Karmana logging road connecting this integrated logging-lumber enterprise to the timber source;

clarify, jointly with the Russian Federation Ministry of Ecology and Natural Resources, the boundaries of Paanavarvi National Park

3. That the Russian Federation Ministry of Ecology and Natural Resources and the Karelian Republic Council of Ministers shall implement, in 1992-1994, the necessary organizational and technical measures associated with creation of Paanavarvi National Park

[Signed] First Deputy Chairman of the Government of the Russian Federation Ye. Gaydar

Pollution Cuts Life Expectancy in Saratov 'By 10 Years'

PM1506124192 Moscow Russian Television Network in Russian 1445 GMT 5 Jun 92

[From the "M-Trust" program: Video report by Igor Deryugin, identified by caption]

[Text] [Deryugin to camera followed by video of Saratov industrial installations] According to scientists' forecasts, one in three of the planet's inhabitants will be a cancer patient by the beginning of the next millennium. Ecological factors feature among the main causes

Our oblast is, ecologically speaking, one of the most unfortunate in Russia. Some 300,000 tonnes of pollutants are discharged into the atmosphere by the oblast's enterprises annually. They include sulfuric acid, lead and lead compounds, carbon monoxide, and nitric acid. This cannot fail to cause a steady growth of the incidence of cancer in the region. This applies especially to cancers of the skin and lung. Detection of cancer in the early stages is virtually impossible since there is still no cancer screening clinic in the oblast

Meanwhile the information about pollutants is worrying only medics and my colleagues. According to medical statistics life expectancy in Saratov Oblast over the past 20 years has decreased by 10 years. [video shows Saratov oblast industrial installations, people undergoing medical checks]

Presidential Adviser Skeptical on Nizniy Tagil Environmental Measures

OW0906192992 Moscow INTERFAX in English 1749 GMT 9 Jun 92

[Prepared by Andrey Pershin, Andrey Petrovskiy, and Vladimir Shishlin and edited by Boris Grishchenko; from "Presidential Bulletin" No. 90—item transmitted via KYODO]

[Text] Svetlana Revina, the leading expert of Russia's President's advisory board on the issues of ecology and health care, informed INTERFAX that the development and practical realization of complex measures which could ameliorate the ecological situation in the area of Nizhniy Tagil would require "at least ten years plus billions of rubles from the state". In the meantime, she noted that Russia had

not formally adopted the methods of analysis which could designate areas, towns and cities, as zones of ecological disaster. Preparation of the required documentation has been assigned to the republic's Ministry of Ecology

In the words of Svetlana Revina, after Nizhniy Tagil is acknowledged as a zone of ecological disaster, a special time schedule will be developed to reduce the level of contamination of the region. In addition, the government has prepared a number of economic sanctions, as regards the industrial, especially metallurgical, enterprises responsible for the contamination. At the same time, the companies adopting ecologically clean technological processes will be granted privileges in terms of taxation. The state will provide subsidies to the enterprises relying on ecologically pure technologies

Svetlana Revina, however, was highly skeptical about practical realization of these measures. In her opinion, gaining influence in the republic are the "space, military and industrial lobbies, including the oil and gas production capabilities, which reveal unusual aggressiveness". These lobbies seek to "capture" primarily the Siberian territories, paying no heed to the consequences

The ecological expert attributes the cities of Bratsk, Angarsk, Salavat, Ufa, Cherepovetsk and Chelyabinsk to the most ecologically dangerous regions of Russia

Amur Region Residents Protest Against Toxic Waste Facility

LD1606112992 Moscow ITAR-TASS in English 0822 GMT 16 Jun 92

[By ITAR-TASS correspondent Svetlana Kalashnikova]

[Text] Pereyaslavka (Khabarovsk region), June 16 (TASS)—Inhabitants of the Lazo district in the Khabarovsk territory have staged acts of protest against the construction of a facility to bury toxic waste in their territory

According to information from the territorial and district ecology committees, it is planned to build the largest facility in the territory here to process and destroy toxic production waste delivered from enterprises located in Khabarovsk and Komsomolsk-on-Amur

An ecologically clean site has been chosen for the purpose. Two Amur tributaries begin here. A year ago, work began here to restore valuable species of trees

Participants in the protest action demanded that experts carry out necessary studies and supply information on the capacity and operations of the facility to be built, as well as on the toxic waste processing and transportation technologies

WESTERN REGION

Ukraine Cabinet of Ministers Views Closure of Chernobyl Units

4U0806121392 Kiev URYADOVYY KURYER in Ukrainian 29 May 92 p.3

[Unattributed report "In Ukraine's Cabinet of Ministers"]

[Excerpt] At its 25 May meeting, the Ukrainian Government considered two questions that have long been under discussion at all levels, but whose ultimate resolution is still undecided. Further operation of the Chernobyl Atomic Electric Power Plant [AEPP] and the Draft State Program for Privatization of Property of State Enterprises were on the agenda.

The closing down of the Chernobyl AEPP is not such a simple matter as it might seem at first glance. Even if the plant does not produce electricity, it needs great amounts of energy to satisfy technological needs. In the conditions of the present energy shortages, the feeding of the Chernobyl AEPP with steam and electricity is a very difficult task. It is therefore necessary to create local sources of energy. Organs and organizations authorized to fulfill this task are now working on this. As was pointed out at the Cabinet of Ministers meeting, there is an agreement in accordance with which Romania will supply two powerful plants.

Proceeding from the situation that has taken shape, the government has commissioned the "Ukratomenergoprom" and the production association "Chernobyl AEPP" to ensure the closing down, in 1992, of the first and third power units after the entire complex of preparatory work is completed and also to expedite the elaboration of specifications for building a new boiler house and reconstructing the operating one.

The Ministry of Power Engineering, the Ministry of State Resources, and the "Ukratomenergoprom" concern have been commissioned to resolve the question of creating a specialized Building and Installation Administration for fulfilling work associated with the closing down of the plant. They must also speed up the acquisition of the necessary instruments and materials for the two electric power trains [enerhopoyizdy] that function in the 30-kilometer zone. The AEPP must also be provided with new electric power trains.

The Ministry of Finance must resolve questions of financing work to exploit halted power units and also take measures for guaranteeing social protection of workers at the "Chernobyl AEPP" Production Association.

Taking into account the extreme importance of the question regarding the halting of the first and third power units of the Chernobyl AEPP, this governmental decision has been submitted for coordination to the Supreme Council Presidium and to Ukraine's president.

New Nuclear Decontamination Method Proposed to Byelorussian Government

OW0806215492 Moscow INTERFAX in English
1701 GMT 8 Jun 92

[Prepared by Andrey Pershin, Andrey Petrovskiy, and Vladimir Shishlin and edited by Boris Grishchenko; from "Presidential Bulletin" No. 89—item transmitted via KYODO]

[Text] Prime Minister Vyacheslav Kebich on Monday studied proposals from the "Fotosintez" nature conservation enterprise in Yoshkar-Ola (the Mari-El republic, a subject of the Russian Federation), for decontaminating all

areas in Byelorussia, contaminated with radioactive nuclides within two years. The scientists say they will be able to do so with the use of their invention they have worked on for about 30 years. They say that their invention turns caesium and strontium into harmless, stable isotopes in 9 months and plutonium, within two years. Experiments held in areas of Byelorussia affected by the Chernobyl nuclear power plant have confirmed this.

Besides, the treatment of soil with what they describe as a photobiodynamic zeolite produced no pathological changes in the soil. The new method of decontamination is far less expensive than the one used currently. The conventional method requires 1 million rubles to decontaminate one hectare. Experts in Yoshkar-Ola say they can reduce the cost to 60 thousand.

Sources close to the Byelorussian Prime Minister Kebich say he is very interested in the project.

Contest Announced To Make Chernobyl Sarcophagus Safe

LD1106140792 Moscow ITAR-TASS in English 1148 GMT
11 Jun 92

[By UKRINFORM-TASS]

[Text] Kiev, June 11 (TASS)—The large amount of nuclear fuel and radioactive materials contained in the fourth reactor of the Chernobyl nuclear plant, which was destroyed by an explosion in 1986, the inadequate study of the dynamics of the processes occurring in it and also the limited service life of the concrete sarcophagus that entombed the ruined reactor, which was built in the emergency, create an alarming situation around the Chernobyl nuclear station.

In this regard, the Ukrainian Government has announced an international contest for a project to turn the Chernobyl sarcophagus into an ecologically safe system.

Prizes of 20,000 U.S. dollars (1), 10,000 dollars (2) and 5,000 dollars (5) were established for the winners of the contest. Those willing to take part in it should file applications to the organizing committee of the contest (address: 252196, Kiev, I. Ukrainka Square, I. Ukraine's department responsible for cleaning up the Chernobyl disaster, telephones: 296-81-98, 296-84-98, telefax: 294-77-96, 294-82-96) within a month of this report's publication.

International Seminar on Energy Saving Held in Kiev

LD1606153192 Moscow ITAR-TASS in English 1206 GMT
16 Jun 92

[By UKRINFORM-TASS]

[Text] Kiev, June 16 (TASS)—An international seminar "ways to save energy" has been held at the Tripolskaya thermal power station outside Kiev.

It was organized by the Ukrainian Energy Ministry for power engineers and environmentalists of Ukraine and other Commonwealth countries.

Participants heard lectures and instructions from specialists of the European Reconstruction and Development Bank, the U.S. Berkeley Laboratory and the Japanese Development Bank.

The seminar considered the energy saving experience accumulated by Western countries as well as problems of pricing and cost planning in the energy industry.

Shushkevich Denies Nuclear Plant Construction Rumors

LD1906160692 Moscow ITAR-TASS in English 1745 GMT 19 Jun 92

[By BELTA correspondent Vladimir Glod—TASS]

[Text] Minsk, June 19 (TASS)—Byelarus Supreme Soviet Chairman Stanislav Shushkevich refuted rumors on the alleged construction of nuclear power plants in the near future on Byelarus territory.

At a news conference here on Thursday Shushkevich commented on results of the Rio Earth Summit and described as "absurd" rumors Belarus has allocated land lots for the construction of nuclear power plants.

At the same time, the Byelarus parliament head, nuclear physicist by education, voiced an opinion "Byelarus has no prospects for non-nuclear power engineering. This issue must be studied, analyzed and approaches to it must be elaborated. We are in need for a scientific concept of Byelarusian power engineering".

Shushkevich reaffirmed that during his recent French visit he discussed with the French president and prime minister a possibility of examination and help on part of French specialists, whose authority is valued highly in the world.

The parliament head stressed once again high-class specialists in nuclear power engineering and environmental protection will help the forecast and analysis of the matter.

CAUCASUS/CENTRAL ASIA

Research Facility Linked to Aral Illnesses

92WN0557A Tashkent MOLODEZH UZBEKISTANA in Russian 16 May 92 p 5

[Article by Urinbay Yesirkepov, physician, chairman of the Muynak branch of the Union for Protection of the Aral and Amu Darya: "There Is an Island of Revival in the Aral...: Who Is Declassifying the Secrets"]

[Text] MOSKOVSKIYE NOVOSTI is not inclined to publish reprints, but it changed its principle this time. It reprinted from the American weekly U.S. NEWS AND WORLD REPORT an article devoted to the catastrophic ecological situation on the territory of the former Soviet Union. The article created a sensation throughout the world. It contains some lines about the Aral area:

"Because of the tapping of water for irrigation from the rivers that feed the Aral Sea, it is drying up and evaporating. This has disturbed the precipitation regime, and the average air temperature has increased by three degrees. So much salt and

dust enters the atmosphere that the level of the solid particle content has increased by more than five percent."

Alas, this is not the only problem of the Aral area.

For a long time Muynak residents have travelled to the Vozrozhdeniye and Lazarev Islands during July and August to catch delicate fish—chemaya, for which there was a great demand. Large carp, immense sheat fish, and sturgeon were also in abundance here.

Fishing has been prohibited in the water area of Vozrozhdeniye Island since 1950. They started doing research here. What kind? One could only guess about this, and it is still not completely clear. But in the waters around Lazarev Island they were catching fewer and fewer chemaya each year. The last trip there was in 1963 and the fishermen returned almost empty-handed: the fish had disappeared.

Before the Aral grew shallow some cargo intended for Vozrozhdeniye Island was being transported by civilian ships, but when they approached the island the crew was put in jail and placed under a military guard. What kind of transportation are the researchers using, now that the sea has disappeared? Air or land, through Ustyurt? Is this cargo dangerous for my children, relatives, and compatriots?

During the seventies the fishermen began to observe strange phenomena in the behavior of the fish in the Aral Sea and animals on Ustyurt. Half-dead fish were washed ashore. An especially large number of sturgeon died.

Dead saigas have been found more and more frequently on Ustyurt. The fishermen tell us about "drunk" saigas staggering down to the Lake Sudochye from the direction of the plateau. They were caught by hand and the meat was used for food and taken home. In the middle of the eighties a mass dying out of saigas was observed.

During these same years on Ustyurt at night people were always seeing an orange-reddish illumination at a low altitude from the direction of the village of Uch-say. Was this not what got the saigas drunk? There is no answer.

Do these and a multitude of other facts not show that the activity of the military on Vozrozhdeniye Island and the Ustyurt plateau not only caused economic damage but also threaten everything living?

Every 128th resident of Muynak is a cancer patient. This is an official statistic. In 1988 the average age of people registered with the Uch-say village soviet who died was 26.5 years. Can it really be considered a natural death at that age? Almost all adults here died of cancer of the digestive organs.

And here are some quite "fresh" data. Of the 736 children born in the Muynak maternity hospital in 1991 only 14 had normal births. Every 43rd child was deformed and every 12th was born with a medium or severe degree of asphyxia, and they were actually ill children.

Does a certain amount of "credit" for all this not go to the "researchers" working on Ustyurt, for our territory borders on it? There is no answer.

Now they are trying to prove to us the advantages of building a facility for decontaminating pesticides here. This

must not be allowed! In their news interviews the military specialists promise to earn hard currency for us by using our land to decontaminate toxins from other regions of the CIS. But with money you can buy medicine but not health. The population of our republic is living in an ecological disaster zone to begin with.

As a physician, as a deputy of the rayon soviet, and as a person living in this very zone, I say that it is time to consider the problem of the allotment of funds by former republics of the Union for studying the population of Karakalpakstan, especially the northern regions, at the cytogenetic level. I think it is immoral to turn our backs on people who have been placed at the brink of death without even explaining to them the causes of their premature death.

Ecology, Health Association Formed in Uzbekistan

*LD0806064192 Tashkent Radio Tashkent Network
in Russian 0300 GMT 6 Jun 92*

[Text] In Uzbekistan an Association for Ecology and Health has been formed in the Republic of Uzbekistan to study the various illnesses associated with ecology and upsetting of the balance in the ecosystem. In Uzbekistan there are 43 doctors to 10,000 people, in the United States 23 doctors, and in Japan 18 doctors. The hospitals in Uzbekistan can stand alongside those of advanced countries in equipment and staff. This, however, has been unable to tackle certain problems. Uzbekistan in terms of infant mortality occupies 75th place in the world.

PRC Nuclear Tests Linked to Alma-Ata Cancer Rates

*PM1206130192 Moscow KOMSOMOLSKAYA PRAVDA
in Russian 11 Jun 92 p 3*

[Correspondent Ye. Dotsuk report: "There Is No Such Thing as Other People's Explosions. Peaks of Infant Mortality in Alma-Ata Coincide With Timetable for Nuclear Tests in China"]

[Text] Alma-Ata—Last summer at the Alma-Ata exhibition of national economic achievements a mushroom grew under an ordinary old elm in the clearing. Quite by chance it was picked not by the agile old women who usually trade city mushrooms outside stores and market gates, but by staffers from the laboratory of the republic's center for observing radioactive contamination of the natural environment. Their apparatus unexpectedly indicated the presence of radioactive cesium-137 in the harmless plant. This, as is well known, is a radionuclide of artificial origin.

The results of the scientists' analyses were totally baffling: Where could the cesium have come from in the center of Alma-Ata? Basically, following the 1963 ban on air and ground explosions, there should have been no discharges of radionuclides into the atmosphere. It is of course possible to conjecture that these are radionuclides that are gradually settling on the ground after being thrown into the stratosphere during tests conducted up to 1962 (according to recent data, only 124 air explosions were conducted at the

Semipalatinsk test site, and taking into account underground explosions, the total came to about 470). But Alma-Ata quite a distance from Semipalatinsk and, in the opinion of nuclear scientists, the test site's activity had no direct effect on the capital.

Some people, admittedly, are not ruling out the possibility that the appearance of the cesium could be a result of the Chernobyl explosion.

But there is one other theory. This is one put forward by Professor Chasnikov. And it seems the most likely in terms of the theoretical investigation of the reasons for the appearance of cesium in Alma-Ata.

Ivan Yakovlevich Chasnikov, a corresponding member of the Kazakhstan Academy of Sciences, has been studying the problem of the consequences of nuclear tests since the end of the 1970's. He works at the Institute of High-Energy Physics. Having earlier become convinced that it is impossible to obtain any information from military departments, and with the results of experiments that show how the health and life of the people at the Semipalatinsk test site have been affected, he has collected and analyzed analogous indicators for Alma-Ata and Alma-Ata Oblast.

According to data from the Scientific Research Institute of Oncology and Radiology, over the period 1970-1989 the incidence of cancers among children in Alma-Ata Oblast increased 30 times and the mortality rate tripled, becoming the highest in Kazakhstan.

In the opinion of academicians, the only thing that can explain these figures is the active Chinese nuclear test site at Lob-Nor. This is closer than Semipalatinsk.

The Chinese exploded an atom bomb here for the first time 16 October 1964. That is, one year after the agreement banning nuclear tests in the three media had been signed. But China, as is well known, refused to sign this agreement.

In the summer of 1967 they conducted their second thermonuclear explosion, which had a magnitude of three megatons (one megaton is equal to 1,000 kilotons). They carried out further tests in 1973 and 1974. The thermonuclear explosion carried out in 1976 was the most powerful—four megatons. And the last explosion in the atmosphere, according to data from special foreign information sources, was carried out in the fall of 1980.

Collating observations on radioactive contamination of the atmosphere made by his colleagues at the Institute of Nuclear Physics and the Department of Cosmic Radiation Physics at Kazakhstan State University with data from the republic Health Ministry's Scientific Research Institute of Pediatrics, Ivan Yakovlevich Chasnikov has come to the unequivocal conclusion that there is a direct link between infant mortality in Alma-Ata Oblast and the explosions at the Chinese test site at Lob-Nor. The peak of infant mortality in Alma-Ata Oblast occurred in 1975. (It is significant that the figure is several times higher than for the very same year at Semipalatinsk.) Consequently, the effect of the Semipalatinsk test site can be discounted in this instance. The professor links the leap in the death rate with the fact that the tests of Chinese nuclear weapons of more than one

megaton in 1973 and 1974 led to extremely serious contamination in Alma-Ata Oblast. Chasnikov has discovered a pattern: **Infant mortality in Alma-Ata rises disastrously in the year following the most powerful explosions at Lob-Nor.** For example, after the most recent one, the 1980 explosion in the atmosphere, infant mortality in Alma-Ata in 1981-1982 jumped by 40 percent.

The incidence of cancers and the mortality rate are particularly high among infants in the mountainous regions of Alma-Ata Oblast that border directly on China: These are Narynkol and Kegen. Professor Chasnikov's theory is borne out by data on Kyrgyzstan as well.

According to Chasnikov's forecast, the most appalling consequences of the nuclear activity at Lob-Nor will become apparent at the end of the 1990's. That is to say on the grandchildren and great-grandchildren, the second and third generation.

Until now people living close to the Chinese test site at Lob-Nor have had no real knowledge about its activity. Many people have not even heard of it. It is still China's internal affair, so to speak.

Recently there has been the roar of another nuclear explosion in China. Kazakhstan has protested. As far as I know, there has been no reaction to this protest.

BALTIC STATES

Economic, Environmental Damage by Russian Troops in Lithuania Detailed

LD1406043892 Vilnius Radio Vilnius International Service in Lithuanian 2100 GMT 11 Jun 92

[Excerpts] The working group of the Lithuanian delegation negotiating with Russia, which establishes the damage inflicted by the Army, reports that the Soviet Union seized more than \$33,000,000 in Lithuanian Army property in 1940. The BALTIC NEWS SERVICE reports \$34,500,000 in losses due to the fact that from 1946 to 1990 many people did not work in Lithuania because they were serving in the Soviet Army. Damage to Lithuanian land used for foreign Army bases amounts to \$32,000,000, while damage to Lithuania's environment totals \$30,500,000. Compensation to Lithuanian citizens whose health was affected while serving in the Army amounts to about \$14,000,000; compensation for Lithuanian youths who lost their lives while

serving in the Soviet Army has yet to be established. The Army inflicted \$68,000,000 in damage after independence was restored in 1990-1992.

Lithuania submitted an account for damages inflicted by the Army at Lithuanian-Russian talks in Moscow at the end of May. The bill so far amounts to \$47,000,000,000, with still more damages to be added. [passage omitted]

Negotiator Romualdas Ozolas said in a GIMTASIS KRASTAS interview that Russia so far has been avoiding examination of the damage and its compensation during talks. However, Lithuania submitted official information on the inflicted losses at the delegations' last meeting. Romualdas Ozolas says that Russian negotiators say that their state is not the same as the Soviet Union; thus, it is not responsible for damage caused by the USSR. They also reject the statement that Lithuania never joined the Soviet Union and maintain that it is impossible to distinguish which and where are the losses of the former Soviet Republics. Romualdas Ozolas says that the third and most important argument at present is that Russia simply is unable to settle accounts. Lithuania's delegation proposes various means of compensation, i.e. Russia restores the Lithuanian Army, pays with oil, and so on.

Romualdas Ozolas feels that the whole problem concerns an agreement on the very fact of the damage and the future of that damage.

[Vilnius Radio Vilnius International Service in Lithuanian at 2100 GMT on 12 June adds: "Preliminary estimates of the damage the Soviet Army inflicted on Lithuania over 50 years amount to about \$150,000,000,000. Minister Aleksandras Abisala, Lithuanian delegation coordinator, confirmed for the BALTIC NEWS SERVICE. He says that he refuses to provide a more detailed account on losses in specific areas because the experts have agreed to wait until more accurate, final tabulations are completed. Aleksandras Abisala referred to the assessment of damages to certain areas that have appeared in the Lithuanian press recently as tangle. During yesterday's broadcast, you heard an assessment of some of the damages inflicted by the Soviet Army. The BALTIC NEWS SERVICE bases its reports on the data reported by Romualdas Ozolas, a member of the Lithuanian delegation negotiating with Russia. Aleksandras Abisala noted that the \$150,000,000,000 in damages will be specified after assessing losses of the Lithuanian people and a negative ecological influence on the environment in the territories still occupied by the Russian Army."]

AUSTRIA

Vranitzky Views National Environment Policy Shortcomings

AU1006085092 Vienna DER STANDARD
in German 3 Jun 92 p 4

[Interview with Austrian Chancellor Franz Vranitzky by Juergen Langenbach; place and date not given: "We Have Done Nothing Great in our Environment Policy"]

[Text] [Langenbach] *What is your contribution to Rio, apart from a small national report?*

[Vranitzky] We are going to sign the Climate Convention....

[Langenbach] *The convention does not say anything.*

[Vranitzky] We are planning to find supporters in Rio for an additional declaration. In addition, we will sign the Convention on the Variety of Species. We also intend to increase our financial means for the Third World. We have paid 400 million schillings for the Global Environment Facility and will make available an additional sum of 200 million in the next three years for projects regarding the sustainable management of forests.

[Langenbach] *Where are the 200 million schillings supposed to come from, and where are they supposed to go?*

[Vranitzky] This will be additional money.

[Langenbach] *The main topics of the conference are development and the environment. Development is only a marginal problem in our national report; the only specific matter is an incorrect figure on Austria's development aid.*

[Vranitzky] I see.

[Langenbach] *Why is our development policy so insignificant?*

[Vranitzky] Considering the OECD countries and the goals set by them, we are in the last third, absolute stragglers. We really cannot boast of having done anything great in this area in the past.

[Langenbach] *What about the future? When you presented your new state secretary for development affairs we noted that you only presented her as state secretary for Europe.*

[Vranitzky] Nonetheless, she will have to deal with development policy.

[Langenbach] *She will be so busy with Europe that she will not have time for other things.*

[Vranitzky] She will manage, I think.

[Langenbach] *You have been criticized by your own party because of this issue—by Guenter Dietrich, the deputy chairman of the Development Committee.*

[Vranitzky] I do not consider him particularly relevant. If I had presented Mrs. Ederer as state secretary for development aid, someone would have said it is incredible that she does not say a word on Europe.

[Langenbach] *The second topic is the environment. There are some discrepancies between what the national report says*

and what the government has done. The national report calls for a Central Europe free of nuclear power plants, for instance. At the same time, contracts on the supply of nuclear power from Chernobyl—of all places—are signed.

[Vranitzky] Is there a contract on power imports from a specific power plant?

[Langenbach] *It is nuclear power from Ukraine, correct?*

[Vranitzky] Nonetheless, the topic "No Nuclear Power Plant in Central Europe" remains on the agenda.

[Langenbach] *Nuclear power imports, too.*

[Vranitzky] I admit this is a discrepancy, which is unacceptable over the long term.

[Langenbach] *The national report calls for a reduction in greenhouse gas emissions, in particular CO₂ emissions. In reality, nothing is being done.*

[Vranitzky] You cannot say that nothing is being done. How about the important industrial investments in a number of facilities and technologies? They do have something to do with CO₂.

As far as fiscal policy is concerned, I am not opposed to a CO₂ tax. But a minimum of international alignment is required.

[Langenbach] *How many countries should join in the effort? Could we say, like the EC, that if the Moon and Mars join in we will also take part?*

[Vranitzky] We do not need the Moon and Mars, but the EC's policy would be decisive.

[Langenbach] *The central issue of all environment problems is energy policy. An outside observer has the impression that there is no energy policy. When did the government discuss the last energy concept?*

[Vranitzky] I do not know the exact date. Maybe it was in 1984. But we also have the Energy Policy Guidelines of 1990. Apart from that, I am not sure whether I share your view that there is no energy policy. The task also is to develop energy and raw material conserving technologies and production methods.

[Langenbach] *The national report includes an environmental charter prepared by scientists. According to this charter, the global problems can only be solved if we change our way of life. What does this mean in your view?*

[Vranitzky] It means a lot—in the private area, ranging from heating of apartments and unnecessary holiday habits like glacier skiing to public transport.

FINLAND

Report Challenges Finland's Environment Image

92WN0537C Helsinki HELSINGIN SANOMAT in Finnish
15 May 92 p 5

[Commentary by Johanna Mannila: "From Struggles With Power Shovels to Prosaic Concerns"]

[Text] Information on environmental problems is disseminated very unevenly in Finland and it does not always provide anywhere near all the answers to the most important questions. Interfering with the land and water ecosystems—that is, construction, forestry, the drainage of marshes, and the damming of rivers—has changed Finland's natural environment enormously. These changes are generally accepted and we do not worry about them any the more so or study them. However, chemical and radioactive pollution frightens the people who study them and observe them closely.

The idyll of Finland's natural environment crumbles bit by bit as one reads the report, "The State of Finland's Environment." The local concentration of industrial plant pollution will be increasingly gotten under control in future, but scattered pollution and depletion of the natural environment are increasing.

One of the basic themes of the report is the difference between locally concentrated and scattered pollution. A sewage pipe and a factory smokestack are locally concentrated sources of pollution. Scattered pollution comes from countless small places: fields, cars, sparsely settled areas.

From citizens' standpoint, the difference between the two sources of pollution is that scattered pollution is not regarded as being the fault of any single individual or plant, whereas the blame for locally concentrated pollution can always be laid on someone else—industry, for example. Politically, it is much more difficult to tackle scattered pollution than locally concentrated pollution. The new environmental policy has to be more informed on citizens' depletion of natural resources and their use of the land than the old one was.

I learned from my teacher, Erik Allardt, 14 years ago that there does not seem to be any fixed correlation between people's own experiences and their actual external living conditions. Statistics on life expectancy and illness rates do not agree with how people themselves experience happiness. Happiness can be found in a hovel and tears in a condominium.

It would appear to be just as difficult to define a favorable environment as it is to define happiness. Concern for the environment does not seem to depend on how polluted the environment one lives in is.

People's general understanding of the environment is still poor and problems are fumblingly solved as we run into them. Enormous sums are employed to resolve unimportant problems while there is no longer enough money for important problems. In discussing environmental concerns, we toss off figures on the number of discharges and on fallout, spiced with the mercury level found in hawks, just as we did in the 1970's when we were talking about figures on illness rates due to prosperity.

The natural science background of many environmental problems is known, but we are ill-informed on their social dimensions.

In future all of us will have to show interest in more prosaic matters than long-distance transport, that is, in what we are

doing to our country's coastline, ridges, and areas that have not yet been built up. We must be interested in slowly progressing processes just as much as we are in dramatic struggles with power shovels.

The other Erik, that is, Erik Wahlstrom, the chief editor of the report, is of the opinion that, from the standpoint of preserving biodiversity, the ordinary power saw, tractor, and power shovel pose more of a danger to our environment than the air pollutants that roll across our borders.

Firms Cutting Investments in Pollution Control

92WN0537B Helsinki HELSINGIN SANOMAT in Finnish
15 May 92 p 5

[Unattributed report: "Industry Invests in Reduction of Discharges"]

[Text] The figures on polluters in the report on the state of the environment in Finland are mostly for 1989 or 1990 since more recent ones are not available. Since then, the number of discharges produced by many companies has been reduced thanks to investments in protection of the environment—but, on the other hand, discharges produced three years ago are having their greatest impact right now.

Elimination of Sulphur Stepped Up

Metsä-Serla, for example, closed down its worst polluting plant in Mantta in February 1991 and the company's new sulphur-removal equipment at its cellulose mills in Savo have reduced sulphur dioxide discharges to a tenth of what they were at Sorsasalo near Kuopio.

Kymmene and Enso have also invested in wastewater purification plants and sulphur-removal equipment.

Sulphur-removal equipment at the Helsinki B power plant on Hanasaari went into operation last January.

The new sulphur recovery equipment that went into operation at the Neste oil refinery in Porvoo last August has cut discharges in half.

As for Tornio, Outokumpu's investments are visible in the air around the city.

'Zero Discharges Is Goal'

"Industry and local communities have obtained good results. They can continue merrily in the same way in future, too, toward the big goal, zero discharges," Erik Wahlstrom noted at a reception in connection with the publication of the book.

"It's much easier to tackle the problem of discharges from smokestacks and wastewater discharge pipes than that of nutrients flowing from tens of thousands of fields.

"Agricultural discharges are technologically much more difficult to deal with than industrial plant discharges."

Country's Largest Industrial Polluters Named

92WN0537A Helsinki *HELSINGIN SANOMAT* in Finnish 15 May 92 p 5

[Article by Johanna Mannila: "Lumber Companies, Imatra Power Company, and Neste Are Finland's Biggest Polluters: Data on Condition of Waterways, Forests, and Air Assembled in One Volume"]

[Text] Those companies and industrial plants that are the worst polluters of Finland's environment have been organized into a list. Metsa-Serla heads the list, Neste [state oil company] is second, and the Imatra Power Company (IVO) is third. Following them are the City of Helsinki Energy Works, Outokumpu, Rautaruukki [Foundry], Demira, Enso Gutzeit, United Paper Mills, and Kymmene. The information is based on the figures for 1989.

The worst plants for the environment have been the Neste oil refinery in Porvoo, the City of Helsinki's B plant on Hanasaari, Metsa-Serla's cellulose plant in Savo, Rautaruukki's ironworks in Raase, the IVO power plant in Inkoo, the IVO power plant in Naantali, the Outokumpu foundries in Harjavalta, the Vaskiluoto plants in Vaasa, and the City of Helsinki's power plant on Salmisaari.

Company discharges into water and the air are estimated in a report on the state of Finland's environment published on Thursday. In the calculations, four environmental programs were compared and assigned points on a comparative scale. The problems were the acidification of woodland, eutrophication, the acidification of waterways, and heavy metal pollution. After this, each substance was assigned a damage coefficient.

Usefulness to Society

"If we were to draw up a list of the most profitable companies from the standpoint of the Finnish national economy, the same companies that are on the list of polluters would probably get onto it. Let each of us decide how to view these companies' usefulness to society as compared with the damage they do to the environment," the authors of the book assert.

"Our society is constantly conducting activities that have an impact on the environment and, in connection with this, we have to compare the different kinds of damage caused by them with one another. The comparison is concealed, perhaps even subconscious, and it is not cloaked in a precise form that could be criticized."

Sulphur Discharges Are of Great Importance

Government officials and the courts act as though they had arranged the different kinds of threats to the environment in the order of their importance. In the authors' opinion, the job of making up lists of polluters should not be dismissed on the grounds that complete and definitive research-based knowledge is not yet available.

More sulphur dioxide was released into the air from the Neste oil refinery, which heads the list of companies, in 1989 than from any other locally concentrated source of pollutants in Finland. Discharges of sulphur into the air are assigned great importance in the computer model because

they promote acidification. The Neste oil refinery occupies first place on both the list of worst polluters of the air and the list of plants that damage Finland's environment the most.

A Lot of Nitrogen From Sewage Plants

The wood-processing industry and local waste-water purification plants take turns at being the worst water polluters. Most of the acid-dissipating substances get into waterways from cellulose plants and nitrogen gets into them from sewage plants. Both of them are also big phosphorus polluters.

According to Erik Wahlstrom, the chief editor of the book, the list of Finland's locally concentrated sources of pollutants will hopefully lead to more extensive discussion and action among researchers, industry, government officials, and politicians.

Metals From Chemical Industry

All of industry accounts for well over a third of the discharges of sulphur into the air in Finland and the metal industry alone accounts for a fifth of them. Industry produces about 10 percent of all the nitrogen discharged into the air. On the other hand, the importance of industry as a producer of discharges of metals into the air is particularly great. Only discharges of lead are mostly due to traffic. The industrial branch most responsible for the dispersion of metals is the chemical industry.

While industry pollutes the waterways, discharges of eutrophying nutrients are, of course, mostly due to agriculture. The worst problems created for the waterways by industry are discharges of acid-dissipating substances.

Best Monitored Sector

As far as discharges are concerned, industry is probably the best monitored sector: An industrial plant simply cannot do anything without reporting the matter to government officials or applying to them for a permit.

"Direct discharges by industry do not tell the whole truth since plants consume a great deal of energy and are responsible for shipping traffic. Industry accounts for a considerable portion of the energy and traffic policies that have to be pursued. The production of energy accounts for well over half of the discharges of sulphur in all of Finland and about a third of the discharges of nitrogen oxides," the book asserts.

Number of Discharges as Basis for Classification and Impact on Waterways and Forests

Finland's biggest polluters have been classified according to their discharges of sulphur and nitrogen, which acidify woodland and waterways, eutrophication, and pollution by heavy metals.

Each discharge was assigned a damage coefficient that was based on research data on what effect the substance in question has on acidification, eutrophication, or toxication. When the figures representing the number of discharges annually produced by plants were combined with estimates of the effects of the discharges on the environment, lists of

those plants that most pollute air and water were obtained. And finally, these were combined into one list on which the 10 biggest polluters in Finland are listed.

Only those environmental problems for which the mechanisms that produce them are sufficiently well known and on which Finns can have an effect with their own discharges were used in the computer model, chief editor Erik Wahlstrom said. Global environmental problems like intensification of the greenhouse effect and the ozone loss were excluded from the study.

By "toxication" is meant the effects mercury, cadmium, lead, and chromium pollutants have on Finland's natural environment.

By "eutrophication of the waterways" is meant an increase in the production of plant planktons and other chlorophyllous plants resulting in nutrient pollution from human sources and its aftereffects on Finland's lakes and coastal waters.

By "acidification of the waterways" is meant a lowering of waterways' ability to resist acid and the resulting increase in acid content along with their consequences.

The model covers only direct effects on the environment. It does not take note of effects on the environment arising from the production of raw materials, machines, and equipment as well as those caused by workers. Nor are the effects arising from the use and discarding of products included in the model.

The model's biggest shortcoming is that it covers only discharges into the air and water. "Detailed data on discharges into the ground are not available," Wahlstrom said.

As for the risks caused by industry, the model includes only the discharges produced by the plants during one year of operation. Thus, the model favors plants that produce only a few discharges during their normal operation, but which may give rise to serious consequences in an accident situation.

For example, chlorine discharges could not be included because no connection can be found between figures representing plant discharges of chlorine and the ecotoxicological data.

The same size discharges from different plants affect their immediate environments in different ways, depending on the location of the plant. Among other things, the model underestimates nitrogen discharges that come from marine areas.

The inadequacy of the statistical data also has its effect: Data on locally concentrated industrial pollution are considerably more accurate than data on scattered instances of agricultural pollution.

10 Biggest Polluters in 1989

Companies	Damage (to Environment) Points
Metsä-Serla	553
Neste	481
Imatra Power Company	453
Helsinki Energy Company	435
Outokumpu	244
Rautaruukki	230
Kemira	205
Enso	201
United Paper Mills	183
Kymmene	156
Plants	Damage Points
Neste oil refinery in Porvoo	289
City of Helsinki Energy Company's B Plant on Hanasaari	232
Metsä-Serla cellulose mills in Savo	216
Rautaruukki ironworks in Raahé	208
Imatra Power Company power plant in Inkoo	187
Metsä-Serla cellulose mill in Mantta	156
Imatra Power Company power plant in Naantali	143
Outokumpu foundries in Harjavalta	126
Vaskiluoto Power Company plants in Vaskiluoto	105
City of Helsinki Energy Company plant on Salmisaari	97

Biggest Water Polluters in 1989

Plants	Damage Points
Enso Gutzeit Company mills in Kaukopaa	17
Helsinki Water and Sewage Company purification plant in Viikki	16
Helsinki Water and Sewage Company purification plant on Kylasaari	13
Kaukas Company* mills in Kaukas	12
Espoo Sewage Company plant in Somenoja	11
Tampere Sewage Company plant in Viinikanlahti	10
Turku Sewage Company central purification plant	10
Veitsiluoto Company mills in Veitsiluoto	9
Kumi Paper Industry Company* in Kuusanniemi	9
Enso-Gutzeit Company mills in Varkaus	8

* Kymmene

Biggest Air Polluters	
Plants	Damage Points
Neste oil refinery in Porvoo	288
City of Helsinki Energy Company's B plant on Hanasaari	232
Metsa-Serla cellulose mills in Savo	209
Rautaruukki ironworks in Raahе	206
Imatra Power Company plant in Inkoo	187
Metsa-Serla cellulose mill in Mantta	149
Imatra Power Company plant in Naantali	143
Outokumpu foundries in Harjavalta	126
Vaskiluoto Power Company plants in Vaskiluoto	105
City of Helsinki Energy Company plant on Salmisaari	97

[Source:] Muka Holopainen

Number of Threatened Species Increasing

92WN0537E Helsinki HELSINGIN SANOMAT in Finnish
15 May 92 p 5

[Excerpt from "The State of the Environment in Finland":
"Number of Threatened Species Growing"]

[Text] Biodiversity is declining sharply. In Finland one out of 10 species is threatened. The situation has worsened during the last five years. Species are most threatened by forestry and the next greatest threats are created by changes in agriculture, construction, and chemical pollution of the environment. [passage omitted]

JAPAN

New Waste Bill Retains Former Environment Minister's Policy

92WN0505A Paris LIBERATION in French
6 May 92 p 33

[Article by Sylvaine Villeneuve: "Waste: Segolene Royal Co-opts the Lalonde Plan"]

[Text] Everything that can be treated will be, and a fee will be charged for depositing waste. The environmental minister's policy copies her predecessor's, except for requiring manufacturers to become more involved. A look at the new bill.

Segolene Royal is carrying on the Lalonde tradition in waste policy. Yesterday, the environmental minister presented a waste elimination bill that retains all of the major orientations of her predecessor's policy. The master plan advocates imposing a strict ban on untreated waste deposits by 2002, closing 6,700 dumping grounds that take in household and "ordinary" industrial waste within 10 years, and establishing a dumping tax.

The exponential growth in discarded waste has thus spurred the government to implement an ambitious two pronged policy: Everything that can be treated must be, and users will have to pay to deposit garbage at waste grounds. Today, 35 percent of household garbage is recycled, either through composting, energy-generating incineration (this already saves France 450,000 metric tonnes of oil), or salvage of materials (glass, cardboard, iron scrap). Recycling of this kind will have to be implemented systematically. What remains at the end of the line, the so-called "irreducible" waste, will be subject to a "dumping" tax. Local collectivities, which are responsible for collecting household garbage, and manufacturers, who must dispose of all kinds of waste at the end of their production process, will pay a fee of 20 French francs [Fr] per metric tonne. The tax should bring in some Fr350 million a year. It will be levied by the new Environmental and Energy Control Agency (ADEME). The bill states that the fund "will be used to develop clean techniques, produce equipment to treat household garbage, restore polluted land and storage sites, and assist communes that accept new waste treatment installations within their borders."

France produces 30 metric tonnes of household garbage each year, nearly half of which consists of plastic wrapping and cardboard boxes alone. Industry spews out 150 million metric tonnes of waste, and agriculture 400 million. But it is becoming increasingly difficult to open new storage sites. In short, other means of eliminating waste must be found.

The bill's novel feature is that it asks manufacturers to get more involved. To start with, when local collectivities are unable to find anyone to treat their waste, the administration will have the authority to officially designate a "converting" manufacturer.

Moreover, Segolene Royal has asked Jean-Rene Fourtou, Rhone-Poulenc's CEO, to go back to the drawing board with his industrial waste plan. Mr. Fourtou had recommended a manufacturer "self-managed" system to clean up the "sinkholes." Sinkholes are industrial waste sites—often located on company grounds—that are a serious environmental problem. The Environmental Association of French Companies, which was recently created to eliminate them, had proudly announced that French industry would marshal a tiny Fr8 million annually to clean up the sinkholes within seven years. The minister has decided that industry can do "more, more quickly" with respect to research and clean technologies, to reduce waste production. This means taking another look at production processes, starting at the factory, and not just at the waste site. Segolene Royal has consequently asked Jean-Rene Fourtou to come up with some new proposals by the end of May.

GERMANY

Bonn Reportedly To Lower Nuclear Safety Standards

AU1306145692 Frankfurt/Main FRANKFURTER
RUNDSCHAU in German 12 Jun 92 pp 1, 2

[Karl-Heinz Karisch report: "Bonn Plans Concessions in the Sphere of Reactor Safety"]

[Text] Frankfurt, 11 June—Federal Environment Minister Klaus Toefer, of the Christian Democratic Union [CDU], is planning to lower the safety standards of nuclear power plants by changing safety regulations. Since all of the approximately 20 reactors that are in operation in western Germany were built in the seventies and early eighties, an increasing number of their components reach the so-called Exhaustion Grade 1, which means that they have to be replaced. In the future, it should be possible to leave such components in use even if the exhaustion grade is exceeded.

Environment Minister Toefer supports the corresponding recommendation by the Reactor Safety Commission (RSK), on which the "Pressure-Conducting External Systems" Subcommittee of the Nuclear Technological Committee (KTA) will vote on 23 June (KTA regulation 3211.2). The environment minister published the recommendation in THE FEDERAL GAZETTE. In the recommendation, the RSK suggests that nuclear plants remain in operation if "by appropriate control measures it can be guaranteed that any damages can be kept within tolerable safety limits." The continued operation of the plant is tolerable "as long as there are no signs of cracks."

The Energy Ministry of Kiel, headed by Guenter Jansen, of the Social Democratic Party of Germany [SPD], has opposed Bonn's plans in this regard. In a letter to the Federal Office for Radiation Protection, it states that the "technological protection of existing components of plants with an insufficient life span" must not be established as a rule. The RSK's recommendation is "disquieting" because "particularly, as far as the sphere of pressure-leading casing or other spheres that must not burst are concerned, a possible melt-down if one component fails cannot be ruled out as far as we know today." Moreover, the proposed frequent checks of old components means that the people servicing the plants are exposed to additional radiation.

"The industry and the federal environment minister are trying to reduce safety intervals," an official of the Kiel Energy Ministry told FRANKFURTER RUNDSCHAU. What could so far only be considered as an exception and involved the examination of the component in question is now practically the rule. He is hoping for the support of the other laender, which have a minority in the deciding body sufficient to block the move, the official said.

"The industry is also represented in the KTA and is now setting up its own regulations," Lothar Hahn, of the Darmstadt-based Ecological Institute told FRANKFURTER RUNDSCHAU. There are rising problems regarding the old plants, which the industry "is no longer able to cope with." Problems affect, for example, the components that control the operating pressure of the pressurized-water reactors that are used in Germany. Hahn criticized: "If this recommendation is adopted it clearly deteriorates the current situation. The safety regulations would be canceled after they had been introduced."

Rio Summit Seen as Offering 'No Solutions'

AU1206153992 Hamburg DIE ZEIT in German 12 Jun 92 p 1

[Helmut Schmidt editorial: "No Solutions To Be Expected From Rio"]

[Text] The decision not to include the subject of the population explosion in the Rio conference was a cardinal mistake. The world's population is increasing by 100 million every year. Until the 19th century, it took hundreds of thousands of years for mankind to increase to 1 million people. At the beginning of the 20th century, the world was inhabited by 1.5 billion people, and at the beginning of the 21st century, their number will be four times as high. The developing countries account for 95 percent of the dramatic population growth. Thus, the number of people affected by absolute poverty is increasing rapidly.

Development aid, which began in the middle of this century, did not succeed in preventing poverty, but it contributed to the population explosion by clearly reducing mortality among infants and mothers through better medical care. If the world's population continues to grow at the current pace, no sensible human being can hope for a reduction of poverty and the preservation of the environment. Not even if we quadruple development aid.

In 1950 the industrial donor countries still accounted for one-third and the recipients, the developing countries, for two-thirds of the population. Within 30 years, however, the countries receiving development aid will represent five-sixths of the world. The hope that the industrialized part of the world might be able to free the rest of the world, which is five times as big, from poverty is an incredible illusion, particularly because the developing countries generally spend five times the amount that they receive in development aid on their military. Mass migrations will follow, in comparison with which the migration of the peoples and the wars about which we learned in school will look insignificant. In addition, the environment will also be destroyed.

Among the threats for the environment, the dangers of the greenhouse effect and the climatic changes resulting therefrom, particularly the rise of the sea level, are most alarming. Hundreds of millions of people living on the Pacific Ocean and the big river deltas in Asia, Africa, and South America will have to leave and find a new place to live. The major reason for global warming is by no means the destruction of tropical forests, but the burning of fossil energy releasing carbon dioxide, such as coal, brown coal, oil, and gas. The industrialized states—above all, the United States—are mainly responsible for that.

Washington has refused in Rio to agree to a ceiling for carbon dioxide emissions. The European states and Japan did not commit themselves either. Thus, selfishness achieved a victory with far-reaching consequences over reason and responsibility. The developing countries for their part refused to commit themselves to propagating lower birth rates. They received support from the Holy See, which skillfully advocated its narrow-minded ideology in preparatory negotiations.

Developing countries and industrialized countries are on the same planet. They are in the same boat. However, both sides refuse to stop the leak on their side. What is even worse, they threaten each other that they will make the leak even bigger if the other side does not start stopping it.

The trips to Rio by the heads of state are designed to please television viewers at home. They neither want to negotiate with each other nor sign treaties that would oblige them to do certain things or to refrain from doing other things. George Bush claimed that his country wants to be the "world's leading power" as far as environment and development are concerned. However, the Americans are not fit to play such a role. As a matter of fact, the EC countries could have jointly assumed obligations, but they were not more courageous than the U.S. president. It is dishonest to speak of a "new world order" in this connection.

There cannot be talk of a "peace dividend" either. Such talk would be justified if the industrialized states agreed to halve their military spending, which amounts to over \$600 billion annually, and their expenditure for space travel. The "dividend" would be effective if the funds saved in this way were used for research, development, and the transformation of solar energy (photo-voltaics), for the transformation of carbon dioxide into carbon hydrides (photosynthesis), and for the reduction of overall energy consumption. As a matter of fact, the EC could tackle such projects on its own and thus become the "leading power."

If the developing countries also halved their military expenditure amounting to \$200 billion annually and used the sums saved this way for curbing population growth, they could also make a decisive contribution to preserving healthy life on our planet. They need family planning, contraceptives, an improved school system and school education for girls until the age of 16, as well as better rights, a better status, and better job opportunities for women.

Underdevelopment, absolute poverty, population explosion, and threats for the environment are linked in a vicious circle. So long as the rulers of this world tackle only one or two of these interlinked problems, they will not find a solution. For this reason, the mammoth conference that is so reluctant to adopt decisions is nothing but a warning.

Kohl's Rio Speech Criticized as 'Vague'

AU1306184392 Munich SUEDEUTSCHE ZEITUNG
in German 13-14 Jun 92 p 4

[Editorial by "rkl": "A Chance Missed"]

[Text] Chancellor Kohl gave a beautiful speech in Rio. He reminded his audience of the enormous efforts that the Germans have to make for reconstruction in the new federal laender and for help for Eastern Europe. But at the same time, he acknowledged Germany's responsibility for the developing countries. We must interpret the chancellor's statements as meaning that all three tasks are of equal importance.

As general as this acknowledgement of responsibility is, just as vague are his statements about what deeds will follow his words. Besides the Federal Government's known intention to contribute about DM790 million to the World Bank's Global Environment Facility, Kohl did not take any specific initiatives.

His pledge that Bonn will spend 0.7 percent of its gross national product on development aid is old hat—the relevant UN recommendation was made 20 years ago. Without giving a timeframe within which this goal will be reached, such a pledge is nothing but a friendly word for the have-nots in the South. In addition, the promise that Bonn will not only forgive debts to the least developed countries but also to the less developed countries in the Third World if they invest in the environment is just a big phrase that costs nothing, if no specific sums are mentioned. The domestic policy calculation that billion-mark transfers for the Third World can hardly be made palatable at home is the decisive factor.

Thus, Kohl has missed a chance. The word about responsibility has remained a word. The danger is looming that the good preparatory work that his environment minister performed in Rio during the tough negotiations, and the confidence he has thereby created among Third World countries, may be gambled away quickly.

Toepfer Reviews Results of Rio Earth Summit

AU1606093292 Frankfurt/Main FRANKFURTER
RUNDSCHAU in German 16 Jun 92 p 6

[Interview with FRG Environment Minister Klaus Toepfer by Joachim Wille in Rio de Janeiro: "At the Beginning of the Necessary Dramatic Process"]

[Text] [Wille] *At the Earth Summit you negotiated almost day and night; in particular the compromise on the forest protection statement is considered to be your achievement. Did you never have the feeling that the entire conference on saving the planet might fail?*

[Toepfer] Certainly, there was this feeling. In particular the topic of finances was often very critical, but also the transfer of environmental technology and the forests caused audible friction.

[Wille] *Is there a special country that is considered the scapegoat?*

[Toepfer] No, there were individual countries or small groups of countries that advocated their interests in a very tough manner for the respective areas of problems. Concerning the forests, there were developing countries, such as India, Pakistan, Malaysia, and Indonesia, which enforced their "no" to a binding convention. Concerning the protection of the atmosphere, there were the oil producing countries of OPEC, which opposed even more toughly everything that might reduce the sales prospects for petroleum. Concerning the issue of financing, there were the big industrialized countries, which did not want to commit themselves to the goal of raising their payments for development aid to 0.7 percent of their gross national product by the year 2000.

[Wille] *Is the result of the summit not just a bundle of thin compromises? Can the general, non-suable commitments of the Rio Declaration and the forest statement really cause a global ecological change?*

[Toepfer] These statements alone are certainly not enough. However, the papers are what must be at the beginning of the necessary dramatic process. The statements are no

upheavals, they just introduce a change in course. Now concrete work has to be done, in particular concerning the speedy implementation of the climate protection convention and the convention on bio-diversity.

[Wille] *The 120 heads of state and government who gathered at Rio did not make any tangible financial promises for improving the ecology and for lasting economic development, as the worldwide ecology program Agenda 21, which was adopted in Rio, demands. Is this a building plan without builders?*

[Toepfer] The financial result of the summit is certainly disappointing, if one considers it as the final result from Rio. However, great psychological and actual pressure has developed because of Rio to really put into practice what was decided there. The awareness of the citizens in the industrialized countries that financial aid to the Third World countries and for the planet's ecology are urgently necessary has also risen.

[Wille] *Germany is far away from the recognized goal of spending 0.7 percent of the gross national product on development aid and thus on ecological projects in the Third World. Our country spends DM10 billion per year on that, however, it should spend DM9 billion more. When will this goal be achieved? Chancellor Kohl refused to commit himself to the year 2000.*

[Toepfer] The political upheavals in Germany and in Eastern Europe have given us great opportunities, but also big financial burdens. If we add only a part of our aid to the countries in the east to the development for the south, we are far above the 0.7-percent goal, even though I know that the developing countries cannot follow this calculation. We certainly do not want to reduce our responsibility for development policy, but raise it. But we must make clear what kind of commitments we have in total.

[Wille] *More than 100 states signed the international climate protection convention. But the chapter on the protection of the earth's atmosphere in Agenda 21 was almost thrown out by the oil producing countries, headed by Saudi Arabia. There was opposition to new energy taxes and the promotion of alternative energies. How else should the industrialized countries pursue a sensible energy policy?*

[Toepfer] The strong opposition against the energy chapter in Agenda 21 is clear evidence for me that the climate protection convention was urgently necessary. On this basis, supported by many countries, one can build something despite the resistance of individual countries.

[Wille] *Thus, the industrialized countries must reject the interests of the Saudis?*

[Toepfer] Absolutely. This is so. I am glad that here the United States has joined in with very clear statements. The insight that dedicated and demanding environmental protection is not pursued at the cost of economic development but that, as a result, urgently necessary technologies are developed, is increasingly gaining ground among the industrialized countries. We do not see new taxes on energy and carbon dioxide as an instrument to destroy jobs, either, but

as one to raise energy efficiency and thus to safeguard the industrial locations in Germany and Europe.

[Wille] *In the forest statement the term "forest convention" was not permitted to be used, because otherwise countries such as the tropical wood exporter, Malaysia or India, would not have joined in. Do you still expect that a treaty that is binding under international law will develop?*

[Toepfer] The forest convention is an acceptable compromise. The term convention is not used in it, but in the forest chapter of Agenda 21, I managed to have other international agreements—including some that are binding under international law—included as future possibilities. It was my goal to keep this door open. And it is open. This is a basis for further negotiations.

[Wille] *Will the FRG issue invitations to such negotiations?*

[Toepfer] Our first goal is the follow-up conference on the climate protection convention so that specific decisions are made there. We have invited all the states that signed the convention to this conference. But we also want to keep the lead as regards the forests.

[Wille] *Another invitation?*

[Toepfer] I cannot yet say whether there will be a formal conference on this issue. In any case, we will contribute to the establishment of a more solid basis of trust than exists today among the countries that are dedicated to the forest topic.

Kohl Addresses Bundestag on UNCED, Europe

AU1706094892 Mainz ZDF Television Network in German 0709 GMT 17 Jun 92

[Government statement given by Chancellor Helmut Kohl at the Bundestag session in Bonn—live]

[Text] Madam President, ladies and gentlemen:

Today we commemorate the day 39 years ago, when workers in Berlin, Jena, and Goerlitz, in Leuna, in Zschopau, and in many other industrial centers of the then GDR took to the streets—against the oppression by the SED [Socialist Unity Party of Germany], against the division of our fatherland, for free elections, for respect for human rights, and for the right of all Germans to self-determination. This peaceful uprising was crushed by tanks.

However, history has shown that those who demonstrated for freedom and unity at that time were right. Until two years ago 17 June was celebrated as the Day of German Unity. In reunited Germany the Day of German Unity now is 3 October, when in autumn 1990 we were able to complete the unification of Germany as a state. June 17 is a day of mourning and warning; 3 October is a day of joy and confidence.

Despite all the joy at the reunification of our fatherland, the memory of 17 June 1953 must not fade. Because this day shows us today and in the future that freedom and unity are not self-evident, but goals for which courageous people have

made great sacrifices. At the same time, it warns us not to tire in our efforts for the respect of human rights all over the world.

Madam President, ladies and gentlemen; at the Rio conference the FRG Government made it clear that Germany accepts its responsibility in the world and makes its contribution to solving the global problems in the field of the environment and development.

I am pleased to take this opportunity today to express my thanks and respect to FRG Minister Toepfer and Parliamentary State Secretary (Ripnik) in particular, who, with their extraordinarily dedicated and constructive negotiations, helped to ensure a good outcome. [applause]

We achieved much more in Rio than some pessimists predicted. As positive results of the Rio conference we can note the following:

First, a climate protection convention with a worldwide commitment to limiting the gases that cause the greenhouse effect.

Second, a convention for the protection of endangered species of animals and plants.

Third, a statement on the lasting cultivation and protection of forests.

Fourth, the so-called Agenda 21, which puts future development and cooperation in environmental policy on a new basis.

Fifth, the Earth Charter, the basic principles of environmental and development policy.

Ladies and gentlemen, a message has emanated from the Rio conference—a message of solidarity, of equal partnership of all peoples, and of common responsibility for the world. It is impressive that for the first time the world's heads of state and government—across all borders and religions—declared the preservation of Creation as their common goal.

On behalf of the FRG, I made it clear that we are ready for worldwide solidarity. Both in the plenary sessions and during bilateral talks with many heads of state and government, I advocated joint, worldwide action. In this I was able to point to our national efforts to protect the environment and our own contribution to international development policy. I met with much understanding and also recognition for our contribution of solidarity after reunification, after the disappearance of the East-West confrontation.

I explained that we Germans currently face three big challenges. In this process, our solidarity goes, first of all, to the people in the new laender. Second, our solidarity goes to our neighbors in Central, Eastern, and Southeastern Europe. We want and we must emphatically support the democratic and economic reconstruction in these countries. This, too, is a contribution to safeguarding our own future.

As an important example, I cite the concern about the safety of the nuclear power plants in these countries. In the meantime, we all know much more about the marked safety deficits of these facilities. This must not leave us indifferent,

because it has a very immediate effect on us, as the experiences with the consequences of the Chernobyl reactor accident showed.

Therefore, it is in our own interest to make a contribution to improve safety in the nuclear power plants in Central, Eastern, and Southeastern Europe. However, I must add that no Western country is able to carry the burden of responsibility and of providing the necessary financial means on its own. At the international economic summit in Munich we will also discuss this issue. However, we do not want to and cannot relieve states where these plants are located, which are thus immediately affected, of their responsibility. Every state itself must remain primarily responsible for the safety of its nuclear power plants. What we can and want to do in this respect, too, is to provide help for self-help.

Third, we owe solidarity and help, not least, to the people in the developing countries. This refers both to immediate aid and to the establishment of national and international framework conditions, which enable the developing countries to have their share in the international economy and thus in prosperity. We want a comprehensive partnership in development, which strengthens the will of the developing countries and their own responsibility for policy. And we want to support the poorer countries in a special way.

This also applies to measures for the remission of debts. Therefore, we will try to arrive at an internationally coordinated means of action so that fair burden sharing is ensured. The vicious circle of poverty, population growth, and destruction of the environment must be broken. [applause]

All over the world the awareness of the problems involving poverty and the preservation of Creation has increased.

A dynamic process was initiated in Rio that will help us to make progress on the path toward resolving the most urgent issues concerning the future of mankind. The forces that are being released as a result of the end of the East-West conflict should now be used to safeguard the natural environment for all of mankind. [applause]

Madame President, ladies and gentlemen, not least because of the Danish vote, European policies have again become a focal point of public discussion during the past few weeks. The unease that is occasionally observed in connection with the current development is certainly also linked with the pace of the far-reaching changes that have taken place during the past three years. Many are worried whether we are not assuming too great a burden with our efforts to deepen and expand the Community as well as to help the countries in Central and Eastern Europe, in addition to completing German unity. I quite understand these fears, but I believe that we must not lose sight of the long-term goals and of the direction of European policies. In view of our own interests and the interests of the European and the international environment, there is no alternative, no sensible alternative, to a policy that integrates our country, Germany, irrevocably into Europe. [applause]

European unification was, is, and will continue to be a cornerstone of the FRG's success story. Unification has probably brought more economic and political advantages to Germany than to any other country. One figure clearly shows how strong the German economy is linked with Europe: About three-fourths of our exports go to the European Economic Area today. We obtain a similar amount of goods from these countries. This means that the economy, growth, jobs, and prosperity in Germany are most closely linked with developments in Europe. [applause]

Only if we consistently pursue European unification will we be able to safeguard jobs and prosperity in Germany in the future. Ultimately, our successful European policies also contributed decisively to the realization of German unity. They created the confidence that ensured support from our neighbors at a decisive moment.

Ladies and gentlemen, this was not a matter of course, because there were and still are fears stemming from the past. I would like to mention in particular memories of the atrocities of the Nazi regime that are still alive in many neighboring countries. Thus, it was decisive for us to link German unity from the beginning with clear support for European unification. We will stick unreservedly to this position today and tomorrow. We want to be both German Europeans and European Germans. This is probably the most important lesson from our eventful history, but also—and not least—from our geographic position in the center of Europe. We Germans would not live up to history if we contented ourselves with national unity and did not do everything possible during this decisive phase of European history to advance the unification of our continent together with our partners, particularly our French friends.

Ladies and gentlemen, let us not fool ourselves. With the end of the East-West conflict, a link has disappeared that held quite a few things together in the past. Even in the western part of Europe, we are not immune to the temptation of falling back into nationalist thinking. In view of the challenges lying ahead, it would be a historical and irreparable mistake if Western Europe would slow down or even stop its political and economic integration. [applause]

By adopting such an attitude we would harm not only ourselves but all of Europe. Besides, a resulting Europe that is split up would no longer be a factor that counts in the world of today. Only by resolutely advocating the implementation of European unity can we prevent a relapse into the destructive nationalism of the past. Neither a free trade area that is loosely linked together nor the single market, but only a strong and solid European union can prevent such a relapse and guarantee security and stability for all of Europe. The main challenges we are facing cannot be met by taking steps on our own but only in close partnership with our friends.

This does not only apply to the economy, trade, and technology, but, in particular, also to the vital issues of internal security, and—not least—to a joint foreign and security policy. In this connection it is now important to implement European Union consistently and without hesitation. The European train must not be brought to a halt; it must continue. [applause]

After all, not moving ahead would actually mean a step backwards. This is also the essence of the joint declaration issued by the French president and myself on 3 June. I recall again and again these days Konrad Adenauer's fears of 1954 before the French National Assembly voted on the European defense community. He said that if agreement on this community is not reached, it might take another 25 years before another attempt can be made. 1954—Maastricht 1993 [as heard]—it took longer.

Even today we must be aware of the fact that, unless in the years following German unification we manage to achieve European Union, there is a risk that it will take even longer before we get such an opportunity again. Therefore, the Federal Government will present the Maastricht treaty to the parliamentary bodies for ratification without any new negotiations. [applause]

As far as we are concerned, it goes without saying that the door to European Union has to remain open for Denmark. However, Denmark has to clearly and unequivocally tell its partners in time what the country wants. I am aware of the fact that, if Denmark were to finally opt to remain outside, we would be confronted with difficult legal questions. The decisive thing now is that, along with our partners, we clearly express our political will to ratify and implement the Maastricht treaty as planned.

At the same time, we are in favor of assuming entry negotiations with Austria, Sweden, Finland, and Switzerland in early 1993, and that these talks are concluded quickly. [applause] Norway—should it so desire—is, of course, also most welcome to the community.

Ladies and gentlemen; those who expected Maastricht or the Maastricht treaty to provide a perfect construction plan for European Union fail to understand the nature of the process of European integration. European Union cannot be designed with a few pencil strokes on the drawing board, but has to be developed step by step on the basis of the experiences of its members. From the very beginning, this was the foundation and also the secret of the success of European integration—starting from the founding of the European Coal and Steel Community to the Rome Treaties, the European Monetary System, to the Single Act, and, finally, the Maastricht treaty. I would like to add with emphasis that this has been the policy of all Federal Governments since 1949.

We can quite rightly point out that we had a strong influence on essential parts of this treaty and that our interests are fully accounted for.

This applies, in particular, to the economic and monetary union. In Maastricht we signed a treaty that gives a solid basis of stability to the future European currency. The implementation of the economic and monetary union presupposes that all participants—by the way, this naturally also applies to ourselves—commit themselves to a clear policy of stability as regards inflation, interest rates, and budget policy.

Addressing those [applause]... I am happy about your positive response... Addressing those who doubt whether this

can be done. I clearly and unambiguously tell them that we will not agree to any weakening of the stability conditions. Only those member states that have proved, through their policy, the lasting will and ability to adhere to stability in line with the criteria agreed on in Maastricht may participate in the final stage of the economic and monetary union.

Ladies and gentlemen, at the same time in Maastricht we enforced—against some resistance—the anchoring of a clearly formulated principle of subsidiarity and thus the development toward a federal Europe.

I am for coming to a sensible and appropriate agreement on the participation of the laender in issues involving the European union. The work on corresponding amendments to the Basic Law have made much progress. We want a federal Germany in a Europe with a federal structure [applause]

In line with the principle of subsidiarity, the European authorities must clearly limit themselves to what must absolutely be regulated at the European level—no more but also nothing less. This principle means a clear rejection of a centralist Europe, a bureaucratic Moloch. [applause]

The EC, ladies and gentlemen, must concentrate more clearly than so far on setting down the basic orientation in essential fields of common interest. This is in the interest of the citizens and also in the interest of the EC's own ability to act.

Ladies and gentlemen, this also means that we have to reconsider critically, again and again, the regulations that the EC has created over the past decades. In Brussels, but I add, certainly also in the national administrations, and I do not exclude ourselves, we have often acted in a too perfectionist and too bureaucratic way.

Of course, in the EC we need fair conditions for competition, but this does not mean that everything must be regulated there in every detail. [applause]

Therefore, together with other colleagues, I have suggested for the European Council meeting in Lisbon that we have to discuss this issue, too, in particular the question of how the principle of subsidiarity can be brought to better effect. [applause]

We want a Europe that is based on the treasure of its cultural and linguistic variety, on the experiences and traditions of its members; a Europe that protects national and regional identities; a Europe that leaves the necessary free space. A future European union is certainly not a melting pot in which the national identities will disappear. [applause]

The European union that we want is a common roof, under which we—regardless whether we are Germans, or French, or Italians—keep our identity. This is the only way in which this Europe will be viable, this is the only way in which this Europe will be accepted by our citizens, this is the only way in which this Europe will have a future—and we want that.

Madam President, ladies and gentlemen, 18 months ago we completed Germany's unity as a state and many expectations have been fulfilled in this period. However, there have also been setbacks and disappointments. Some things will

take longer, and the demand for transfers of financial resources from west to east is correspondingly higher.

Whoever looks at the path that we have covered since 3 October 1990 should once again recall the starting position. In the meantime we know that in 1989 the GDR was facing ruin. It was practically bankrupt, and, on its own, it did not have any prospects for the future. In autumn 1989 the per-capita gross national product in this area was only slightly higher than before World War II. It was about as high as in the FRG in 1954.

The mismanagement of the SED regime made the GDR companies internationally uncompetitive and, even worse, systematically destroyed all preconditions for an economic upswing. The independent medium-sized industries had been eliminated and expropriated. The planned economy had created industrial mono-structures, which were viable only due to the artificial division of labor in CEMA.

When the treaty on the monetary, economic, and social union was concluded—that is, only about two years ago, one always has to recall that—all experts assumed that the assets of the former GDR would be sufficient to balance the GDR budget, to finance economic restructuring, and even to give the savers a share in the state-owned property at a later date.

I want to recall this in view of the discussion that is going on at the moment. [applause] So as to leave no doubt, this has been the usual opinion at all times in German politics. Some people who issue statements today were of the same opinion at that time.

Ladies and gentlemen.... [unintelligible interjection] You are not going to claim that during the negotiations two years ago you said something different. Those among you who claim that should stand up and tell me when they said this two years ago. [applause] They will have to tolerate the fact that after two years we recall that we were of the same opinion on this issue, even though this opinion has now proved to be wrong. This is true.

Ladies and gentlemen.... [unintelligible interjections] You do not believe yourself what you are saying. You sat at the table during the negotiations.

Ladies and gentlemen, in the meantime it has become obvious that the assets of the former GDR were considerably overestimated by everyone involved. The decade-long neglect of housing, roads, railroads, the telephone network, and any kind of infrastructure, which are indispensable for an economic upswing, has proved to be another severe burden.

Today we know from the then secret SED papers that the SED did not use the loans from the west for the necessary investments. Essential parts of the loans were purposefully put into accounts abroad in order to cover up the increasing bankruptcy of the GDR regime and to pretend further credit standing.

At the same time, a course of incredibly wasteful exploitation of nature was pursued, which today confronts us with enormous tasks of recultivation and improvement.

Ladies and gentlemen, this difficult starting position was made even more difficult by the comprehensive collapse of trade with the east. In agreement with all experts in autumn 1990 we assumed—and this, too, was once our common view—that the exports to the east from the new laender could be preserved to a great extent, even though they would no longer reach the previous amount of DM30 billion. [unintelligible interjections]

Ladies and gentlemen, it is exactly 12 months ago—that is, one year—that during the talk with President Mikhail Gorbachev in Kiev an agreement was concluded on purchases at a value of DM20 billion.

This happened 12 months ago, and not at some point in the past. As a result of the fundamental changes in the former Soviet Union, we fail by far to achieve this figure today, as we all know. We all must ask ourselves whether these changed conditions are always being taken into consideration sufficiently. By the way, this also applies to wage policies. Thus, the wage costs have risen dramatically for enterprises, whereas turnover and productivity have lagged far behind. This has a negative impact on employment and jobs. It is also true that this development does not encourage investors to commit themselves to a greater extent. [applause]

Ladies and gentlemen, if one recalls these facts, one realizes what progress has been achieved since 3 October 1990, despite various setbacks. All experts expect real growth of about 10 percent in the new laender this year. Entrepreneurs are clearly optimistic. Initial successes of the recovery scheme for eastern Germany are noticeable. However, it must now be intensified. In the Trust Agency's work, the reorganization of enterprises is assuming increasing weight. We want that. The Trust Agency actively supports the viable companies in their restructuring efforts. Restructuring and privatization must be combined.

Ladies and gentlemen, the improvement of the infrastructure is fully under way. This is important for the recovery. Public investments per inhabitant in eastern Germany are 30 percent above the level in west German laender. This year Telekom will install 600,000 new telephone connections. This is more than was done during 10 years in the former GDR. [applause]

Total investments for the improvement of the traffic infrastructure in the new laender will amount to over DM14 billion this year. The main emphasis will be placed on the 17 traffic projects of German unity in the coming years, involving a total of DM56 billion. Private investments are also clearly rising but they are still—I would like to stress this—noticeably below the level in the western laender. For me there is no doubt that intensified investments are and will continue to be the key to economic recovery. [applause]

For this reason, the Federal Government sets clear priorities in connection with the further improvement of investment conditions in the new laender and in connection with the promotion of the economy. We will make the required decisions at the cabinet meeting on 1 July 1992 when the budget will be adopted. However, one must not forget that even the most generous promotion of investments by the

state cannot compensate for the disadvantage of high wage costs in east German enterprises. I know how difficult it is for the trade unions to advocate a careful adaptation of wages among their members. I also know this from the debates held during the past few hours and the discussions about the public sphere in the new laender. However, I am also convinced that many employees who are afraid of losing their jobs would agree to slightly slowing down the process of adaptation to the western wage level if this helps improve the viability of their enterprises and the security of their own jobs. [applause]

For most people a job means more than just entitlement to receive payment. Numerous people find fulfillment and social acceptance in their work. Long years of work for a certain enterprise also signify protection amid a strong and stable social environment, and thus also a certain degree of personal security. We understand the worries of the people who are afraid of losing their jobs very well. [unintelligible interjection]

Ladies and gentlemen, do you really think that it helps to question the good intentions of the other side? [applause]

We may have different views about the path to our goal. However, I find it unacceptable to accuse the other side of not understanding the problems of our compatriots in the new laender. I would like to have a debate on this topic that does not question our goodwill and our joint efforts. I would like to repeat once more that I understand the worries of the people who are afraid of losing their jobs very well. It is particularly difficult for older people and single mothers to return to working life. With our active labor policy, including job creation measures, qualification offers, and early retirement, we are also helping these persons. In the old laender, greater understanding is necessary for the difficulties that the transition in eastern Germany entails for most people there. The things that were achieved in the west during the lives of a whole generation must be accomplished within a few years in eastern Germany. This requires a readiness and ability to adapt to the new situation that cannot be appreciated enough. Many in the west would probably not show sufficient flexibility under much more favorable conditions.

I often remember the discussions that we held in Rheinhessen a few years ago. If I recall once more what an uproar was triggered by the planned transfer of jobs by 9 km, in view of the worries of our compatriots in the new laender, I wonder about the one or the other voice expressing lack of understanding in the old laender. [applause]

Ladies and gentlemen, I believe that we all want recovery in the east. To achieve this, we need a stable basis of growth in the west. In the old laender, economic development has entered a more quiet phase after the unification-linked boom.

In the first quarter of 1992 the growth rate amounted to plus 1.8 percent, promoted by a number of special aspects. I am convinced that as soon as in the second half of the year we may expect a more lively economic development. However, we must be aware of the fact that additional burdens for the west German economy, following the high wage contracts

that were concluded this year, would seriously endanger this development. Therefore, the public transfers to the new laender cannot be further increased without creating a danger for stability and employment.

After deducting tax revenues, this year a net amount of about DM140 billion from public budgets will go to the new laender. This corresponds approximately to the total expected increase of the gross national product this year.

The federal government carries the main burden of financing. About one out of four DM from the federal budget is invested for the benefit of the new laender. We support this great effort and also defend it against those in the old laender who complain about this as a burden and as an intolerable sacrifice. I am most deeply convinced that the people in the new laender contribute much to the united Germany, not least at the cultural and human level. Their stimuli and their dedication can contribute to overcoming some of the ossification that has developed over the years in the old FRG. [applause]

Ladies and gentlemen, as soon as the economic reconstruction in the new laender has made more progress, essential stimuli to the international competitiveness of all of Germany will emanate from there. How much we need these stimuli is shown by the current discussion of industrial locations in our country.

Ladies and gentlemen, if we, as one of the world's biggest trading nations, want to continue on our successful course, we must face up to international competition without any ifs and but's. Therefore, we must conduct the discussion about industrial locations actively, geared to the future, and, above all, without constant complaints. [applause]

Everyone must be aware of the fact that it is our—by the way, joint—free decision that we afford the highest labor costs, the shortest work time, and the densest social network. In return, costs must be saved in other places or ways must be found to raise productivity much faster than our competitors. [applause]

If this is not done, jobs and, of course, income and thus also social security will be in danger.

Ladies and gentlemen, these problems developed in the old FRG and have absolutely nothing to do with reunification. We would have had to solve them in any case, even if reunification had not taken place. [applause]

In many countries of the world—not least, here in Europe—the framework conditions for company investments are being improved, regardless of party policy structures, because investments today mean jobs and income tomorrow. Therefore, in our country, too, the continuation of the corporate tax reform remains a priority issue. This does not mean tax handouts for a few but opportunities to get jobs and income for all. [applause]

Therefore, we want to come to a decision about the second stage of the corporate tax reform by the end of this year, because it is important that at the beginning of the single European market on 1 January 1993 the companies and those who invest have reliable bases for calculations.

Of course, this will have to be done in discussions with everyone affected—with the laender and, not least, in the urgently needed talks at the local level. The governments of our EC partners, too, are preparing their countries for the single market by means of appropriate reforms. Regardless of the respective party policy orientation—and I repeat that—they all give priority to the improvement of competitiveness.

Beyond all short-term cost aspects—no matter how important they are—the future of Germany as an industrial location also depends on a number of completely different elements. These include—and I cite this in first place—cultural variety, top achievements in science and technology, as well as an efficient infrastructure and administration. We must preserve these strengths of Germany as an industrial location and develop them further. [applause]

Ladies and gentlemen; it is also decisive that we adjust in time to the clearly obvious economic and social changes. This also applies to the dramatic shift in the age distribution of our country's population. As a result of one of the lowest birth-rates in the world and the gratifying further rise in life expectancy, the population pyramid is being reversed in our country. At the moment the proportion of people over 60 in the overall population is already more than 20 percent and it keeps rising. Already today more 3 million people over 80 live in Germany.

All this requires provisions in our social and health system. Whoever looks at the development realizes that the nursing-care insurance is not a luxury but an urgent necessity. [applause, unintelligible interjections]

Ladies and gentlemen, actually I am surprised that you from the Social Democratic Party comment on this topic at all [laughter, unintelligible interjections] because there is no one in this parliament who is less justified in doing so, since this demographic development was equally visible in the years of 1969-82 and you did not do anything at all. [applause]

At the beginning of this legislative period the Federal Government [unintelligible interjections]... It is pointless trying to eliminate facts by shouting around. Your excitement only shows that you know exactly that you failed on this issue, you failed completely. [applause, unintelligible interjections]

At the beginning of this legislative period, the Federal Government noted in the government statement that I presented that during this legislative period—that is, during these four years—we will adopt the laws necessary for nursing-care insurance, and this is precisely what we will do. [unintelligible interjections]

Ladies and gentlemen; social benefits must always be based on economic capacity. Here, too, the facts give rise to questions that no one can ignore. Compared with other EC countries, we currently have far the longest training times at universities. We have an average retirement age of under 59 years. With 37.7 hours a week we have the shortest work week of all industrialized countries. As a result of the short work week and long vacations, we have an annual work time

of about 1,500 hours. This is far less than in comparable countries in Europe and in the world. [applause]

Ladies and gentlemen; this is not offset by longer machine time in our companies. You all know that here, too, we are a long way down the list. These are facts that, regardless of all party policy considerations and regardless of the question of whether somebody supports the trade unions or the industry leaders, anyone can see. I know from talks with many important representatives of the German trade union movement that they, like myself and others, see that a heap of problems is moving toward us, which we must tackle. [applause]

Therefore, I am convinced that safeguarding our future requires all those responsible in the state, in industry, and society to have the strength and the courage to set the necessary course.

If one looks closely, German unification, European unification, the collapse of the communist system, the building of democracy and a market economy system in Central, Eastern, and Southeast Europe, and, above all, reconstruction in our own home, in the new *laender* are, above all, a wonderful opportunity for us and represent the challenge of our generation. [applause]

Now, at the end of this century, we have the unique opportunity of safeguarding peace and freedom for all of Europe for a long time. We want to and we will make good use of this opportunity—for the benefit of coming generations, because this is our duty to history. [applause]

SPD Chairman Klose Addresses Bundestag on Unity, Rio, EC

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[Statement by SPD Bundestag Group Chairman Hans-Ulrich Klose at the Bundestag session in Bonn—live]

[Text] Ladies and gentlemen, the Rio summit is over, the result is meager. This is, not least, to be blamed on the FRG Government. You made every effort, Mr. Chancellor, and so did you, Colleague Toepler, that this should be recognized. However, whoever wants to be successful on the international stage should do what is necessary and possible at home.

Germany's role in the world is defined by Germany itself, by the figure that we cut at home. Thinking globally, acting locally, Mr. Chancellor, you should adopt this slogan. The emphasis is on acting. [applause]

You yourself, Mr. Chancellor, and other speakers at your small party congress affirmed that there are deficits in this respect. You called on yourself to act. How nice! However, verbal promises are not enough. Do something, and start in Germany. [applause]

By the way, Mr. Chancellor, referring to the behavior of others in the past does not help you today, in the present. We live in the present and you are the FRG Government at present. It is your duty to act. [applause]

Mr. Chancellor, you know as well as we all do, that the mood in Germany is not good—to put it cautiously. The mood is equally depressed in the east and in the west. The people in the east are still experiencing German unification as an act of liberation—and that is what it is, a liberation for which the people there have to thank themselves, first and foremost. They, the people there, swept away the communist regime in a bloodless revolution almost overnight—a great historical achievement. The people in the east must not be deprived of the pride that is linked with this. [applause]

However, they are deprived of it if they feel increasingly clearly that the west German system is simply being forced on them and, even worse, that they are turning into collective recipients of welfare benefits from the western Germans.

You, Mr. Chancellor, are responsible for the process of disillusionment, disappointment, and bitterness, which is rather widespread in the new *laender*—not everywhere as I admit. Your statement on the flourishing landscapes, your promise that no one will be worse off but many will be better off, has become stale and bitter. [applause]

I am not against optimism. After all, it is practically part of a politician's job to show a minimum of optimism. However, if optimism turns into white-washing, some people, in particular in the east German *laender*, feel this to be mockery. [applause]

Of course, Mr. Chancellor, many people are better off in material terms, and many things have changed for the better. However, what do you tell a single mother who is over 45 and unemployed, if she asks about her chances on the (first) labor market. Is it enough to tell her about the social security network? No, Mr. Chancellor, this is not enough. This woman and the many older working people are among the losers.

It is your task, the task of the government, to nevertheless offer them some prospects. Labor market policy offers—not the best offer, but often the only possible one—must not be reduced, they must be maintained and expanded. [applause]

Your policy is quite different, Mr. Chancellor. Early retirement regulations, regulations for working shorter hours—both expire at the end of this month. Job creation measures are reduced in the east and west. This policy, which deliberately deprives people of their only opportunity, is not only wrong and short-sighted but mean. Change this, Mr. Chancellor! [applause]

You still have time to implement urgent initiatives on the labor market. Brandenburg has made a proposal for that. We support this proposal. Do that, too! [applause]

Of course, one should not deceive oneself as to the fact that this costs money. The shaping of German unity costs a lot of money, and where should this money come from if not from the west Germans. They are not ready for solidarity, you, Mr. Chancellor, say, and in the meantime this has probably become true. [unintelligible interjection] Did he not tell you this. He told us so.

However, Mr. Chancellor, I must tell you that you made a considerable contribution to this, too. [applause]

After all, it was you who stated [word indistinct] in the months before the Bundestag elections that German unity could be financed without any tax increases, from our pocket, so to speak. This word was maintained until the Bundestag elections, before it was broken—and it was you, Mr. Federal Chancellor, who broke it, and you cannot blame it on anybody else. [applause]

In doing so, you produced the very phenomenon that you are now complaining about, and that is a lack of solidarity; it was a decisive mistake, the effects of which can be felt even today.

Chancellor, why do you not prove your courage—courage vis-a-vis one's own people, as Wolfgang Thierse put it—and say clearly that without a temporary increase in taxes we cannot achieve what we want. Making cuts and public borrowing is not sufficient. The federal president said so, and he is right—at least on this issue—and you know it.

It is true that cuts are necessary. New credits are indispensable. However, as a country that has meanwhile become an importer of massive amounts of capital, we cannot accumulate more and more debts, not least because it will then be impossible for the Bundesbank to give the signal for lower interest rates, which is what our European neighbors are expecting. The current process cannot be financed without tax increases. We Social Democrats said so before the Bundestag elections, and we say so today. We do not think that the West Germans lack solidarity and that they cannot be convinced. Along with the minister president of Saxony, Professor Biedenkopf, we believe that the atmosphere is bad in Germany because the political leadership—that is to say the Federal Government—does not explain the real situation to the people. [applause]

Let me quote: From the people's point of view, the political leadership has not yet outlined and explained the contents of the true challenges and the usefulness for all of Germany of overcoming these challenges. That is a fact. The people want to know what the situation is like, what they can expect, and they want social justice.

Mr. Chancellor, make a fresh start. I repeat: What you need is courage vis-a-vis your own people. June 17 would have been an appropriate date to prove such courage. Apparently you did not dare to show some courage. [Applause]

Ladies and gentlemen: I generally have the feeling that you—that maybe all of us—do not have enough self-confidence. Even in a democracy, politics cannot please everybody. It should not even try to. Democracy does not mean that anything goes, what is needed are decisions, clarity, and reliability. I am saying this also with a view to Europe. Europe must be able to rely on the Germans. Europe needs Germany, but we Germans also need Europe. [applause]

We benefit from Europe—politically and economically. I would like to stress three points in particular.

First, the EC has boosted the prosperity of the member countries, in particular that of the FRG.

Second, the EC is needed as an instrument for solving problems that are too difficult for the individual states. Environmental problems are among these. I wish the EC would assume a pioneering role in the world comparable to the one the FRG has or used to have in Europe. The EC could have—and I think it should have—played a more important role in Rio. [applause]

Third, the EC has proved to be an efficient body to attune national ambitions and to restrain desires for hegemony. Even in its present form, the EC is an instrument for securing peace. We would be mad—to put it clearly—if today, in an era of disintegrating structures, we were to challenge the EC. [applause] We do not want to challenge or weaken but strengthen the EC. It is this basic attitude that characterizes our position on the results of the Maastricht negotiations. We stick to these results. We add that because we want to strengthen the EC and consider Maastricht to be a positive interim step, we must now make great efforts to promote the democratization of Europe. The Germans are not against Europe, and, besides, neither are the Danes.

However, the people increasingly get the impression that they are no longer being asked. [applause] What has to be done is decreed from above. Yet, this does not work and it has to change. A major newspaper wrote yesterday that we need a major public debate. In your recent party congress you spoke of a campaign for understanding. Very well, but please respect the right order. We, the politicians, must know and understand the people, their hopes and fears, and then we have to make ourselves understood on the basis of our programs and decisions. That is the right order. [applause]

As far as Europe is concerned, the people are afraid of the great anonymity. This is why Europe must become easier to understand and more democratic. That is the essence of our demand. [applause]

Mr. Chancellor, we expect that you will take up our demand and we expect that you will make more efforts than you did in the past to implement these demands. Europe needs a true European Parliament. [applause] It needs this parliament as a forum for shaping the true European will.

Ladies and gentlemen: What will come next? The Maastricht treaty will not fail because of Germany. This is the central message the German Bundestag has to make on the eve of the Irish referendum. [applause]

Only within the framework of Europe can we secure prosperity in the long run and meet the economic, social, and ecological challenges of our time. Europe remains the right answer to the danger of nationalism. In view of the developments in Central and Eastern Europe we need a European Community that is ready to act. After the unification of Germany we want to stick to strengthening European integration.

Ladies and gentlemen: The Maastricht treaty is a compromise and it does not fulfill all our wishes. I mentioned the

European Parliament before. Mr. Chancellor, do you seriously think that compliance with the stability criteria for the European currency is guaranteed without parliamentary control? We do not think so. Many other people apart from us also worry whether the stability of our currency is still guaranteed in the economic and monetary union. More could have been achieved on this issue had the Federal Government negotiated more resolutely. A lot of irritation could have been prevented had Parliament and the public been informed in time and comprehensively about what was negotiated in the government conferences. Mr. Chancellor, your information policy is insufficient. [applause]

Regarding the architecture of European security, I only want to make one remark today. Mr. Chancellor, you have to accept the question as to what extent the establishment of a German-French corps created doubts regarding the prospects for a united Europe. As far as I am concerned, I can understand such irritation caused by this solo initiative, particularly among the citizens in our smaller neighboring states, for example in Denmark. [applause]

Our neighbors understandably react with irritation when they are faced with accomplished facts as a result of German-French initiatives. The people in Europe understandably react with irritation when military policy is to be made the driving force of integration. [applause]

Ladies and Gentlemen: I am therefore all the more sorry that at least parts of the government coalition have not become wiser even after the Danish referendum and mounting criticism at home. To put things clearly: Support for Maastricht is not identical with support for combat missions within the framework of the West European Union. [applause]

Despite its deficiencies, we regard the Maastricht treaty as an important step in the process of European unification. What now matters is the following:

First, in the ratification process one must clearly set the course for a Europe of freedom, democracy, constitutional statehood, and social statehood; for a Europe that respects the federal order of its member states.

Second, the future European currency must be stable. The transition to the third stage of economic and monetary union can therefore not come automatically, but requires a new political assessment and decisions by the Bundestag and Bundesrat. [applause] The Federal Government must respect the right of the parliament to reexamine whether the conditions for the stability of this currency are given before the European currency is introduced. We call on the Federal Government to inform the partners to the treaty of this parliamentary proviso in a legally binding way. This is the only way to react to the people's worries regarding the stability of our currency.

Third, the European Parliament must be instructed to work out a European constitution. It is no longer acceptable that the process of European integration continues to evade the public eye.

Europe must receive a constitution that has been developed through public debate and is supported by the people. [applause]

I would like to tell you something else, Mr. Chancellor. We expect you to emphatically advocate a European solution to the immigration issue. We know that this is difficult. The interior minister recently commented on this problem. You must help him because it is such a difficult problem. Everybody naturally thinks of himself first. However, this is an all-European problem which will increase, by the way. We are facing immigration from the East and the South, and it will probably increase further, particularly because, as far as I know, the Rio summit has not resulted in binding promises concerning more aid for the East and the South. This, however, is the core of the problem. Europe has forced its life style on the world, and Europe should now take the lead and do more. [applause]

Those who are mainly responsible for the worldwide threats to the environment, the rich industrial nations, made generous statements in Rio but—if I may say so—were stingy as far as binding promises are concerned. The pockets of the industrial nations remained firmly closed. What was missing were binding promises concerning the readiness to clearly reduce their own contribution to global environmental pollution and the waste of energy. What were missing were binding promises concerning the extent to which environmentally compatible developments are to be supported in the developing countries. The chancellor's financial promises were not clear either. The drafting of a timetable concerning an increase in development aid to 0.7 percent were prevented by the Federal Government in the runup to the Rio summit. We explicitly disapprove of that, Mr. Chancellor. [applause]

Still, I admit that the world summit in Rio was an important conference. It was the first time that the worldwide consequences of the exploitation of the environment and of the resources were discussed in such a comprehensive way by politicians. For the first time, the states of the world adopted a joint Earth Charter and a joint task book stipulating how the world should handle the environment and the resources. It is solely up to us how we implement these decisions. Mr. Chancellor, we hope that you have the courage to ambitiously further develop and implement the meager results of the Rio summit. You will soon have an opportunity to do so. We suggest that you ensure that the issues that have not been resolved in Rio will again be discussed at an economic world summit in Munich in July. Thus, a solution must be found to the indebtedness crisis, and the position of the developing countries in international trade must be improved. The G-7 states must work out steps as to how to reverse the global transfer of resources that is taking place in a south-north direction at the moment.

Ladies and gentlemen, the list of tasks drafted in Rio for the national governments is quite comprehensive. For us, as a highly developed industrial nation, the topic of energy saving must be given utmost priority. The Federal Government won additional weight during negotiations in Rio by submitting a proposal for the reduction of carbon dioxide

emissions. Mr. Chancellor, make this decision credible by implementing a challenging program designed to save energy at home. [applause]

Ladies and gentlemen, it is true that Germany's responsibility has increased worldwide. The question is whether we will draw the required conclusions from that. The Rio conference has ended. Mr. Chancellor, you are back in Germany, and here you are confronted with the German and European realities. Here you must prove the worth of the statements you made in Latin America. Thank you very much.

TURKEY

Demirel Makes Statement on Earth Summit Success

TA1606195492 Ankara TRT Television Network
in Turkish 1700 GMT 16 Jun 92

[Excerpt] Prime Minister Suleyman Demirel has returned from his visit to Rio de Janeiro where he attended the Earth Summit. He said that the summit in which 118 state and government leaders participated was very beneficial both for Turkey and the world. He added: Turkey played an active role in this important conference.

In a statement at Ankara Esenboga Airport, Demirel pointed out that factors such as rapid population growth, poverty, and bad industrialization create significant pressure on natural resources, and that pollution threatens the world's ecological balance. This situation makes it essential for us to protect nature, he said.

The prime minister said that universal problems such as the environment play a unifying role in the world. He said:

[Begin Demirel recording] The aim of this summit was to prepare the basis necessary for the development of an awareness of common responsibility for the future and to help create international unity of understanding to build the future. The summit carried historic significance. I am happy that I was able to attend such an important and historic meeting, that I was able to represent our country with my colleagues, and that I was able to make our country's voice heard.

It is an important turning point for humanity that all the nations of the world—the rich and the poor, the East and the West, the North and the South—are beginning to realize that it is everyone's common problem to leave a livable world to coming generations.

The concept of environmentally friendly economic development has been placed on the world's agenda. The world will now prepare for the 21st century in line with this principle. Agenda 21 is one of the documents approved at the summit. It is an action plan under which the world will make friends with nature once again. Together with the Rio Declaration, Agenda 21 will make up the international community's environmental constitution.

Let me point out that, 47 years later, the Rio conference is equal in importance to the Human Rights Conference held in San Francisco at the end of World War II. [end recording]

Demirel stated that Turkey played an active role at the conference and that at the summit he stressed that Turkey attaches great importance to environmental issues. He added: We will brief the Turkish public in detail about the results of the summit. We will also brief the Turkish Grand National Assembly. However, I would like to underline the following: It is a remarkable fact in itself that, regardless of differences in language, religion, or race, more than 100 state leaders came to Rio—even if for a short time—to express their views, and all of them united around common ideals.

The prime minister pointed out that during the conference it was observed clearly once again how extragovernmental establishments have started to play an effective role in international relations.

UNITED KINGDOM

Government Seeks Action on Former Soviet Bloc Nuclear Plants

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[By Amanda Brown, PRESS ASSOCIATION science correspondent, in Washington]

[Text] The Government wants swift action to halt the nuclear threat hanging over Western Europe from dangerous power plants in the former Soviet bloc. The move is to counter fears of another explosion on the scale of the 1986 Chernobyl disaster when a lethal cloud of radioactive dust settled over Scandinavia and the United Kingdom.

The rich G7 nations, due to meet in Munich next month, may be asked to pay for new safety measures at the old-fashioned power stations. Although it is being stressed there is no imminent danger of an explosion, or need for panic, they believe the problem must be tackled urgently. The concern was expressed as the prime minister arrived in Washington today for talks with President Bush at his Camp David retreat before flying on to the Rio de Janeiro Earth Summit.

The Danish rejection of the Maastricht treaty and Mr. Major's meeting on Friday with German Chancellor Helmut Kohl will be high on the agenda at the talks. Mr. Major will reassure Mr. Bush that a solution to the problem resulting from the Danish referendum vote can be sorted out fairly swiftly. But it seems unlikely the prime minister can heal the split between the United States and the rest of the world over the biological diversity treaty to safeguard endangered species, due to be signed in Rio.

Mr. Bush refuses to sign the agreement because he says it will mean sacrificing jobs for the sake of environmental catastrophes he is not convinced will take place. Mr. Bush, like Mr. Major, is also not prepared to sign blank cheques for Third World aid to pay for environmentally-friendly technology. There is no doubt, however, that American failure to sign the treaty next week will mean its impact is seriously weakened.

Green lobbyists and delegates at the Rio summit claim America is holding the world to ransom and placing the future survival of rare plants and animals at serious risk.

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